



Ministry of Rural Development



# Technical Bulletin Cattle Rearing

**A Sustainable Livelihood  
for SHG Women  
Part I: Breeds of Cattle**

# Introduction to Cattle Farming

The Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAYNRLM) is a flagship program of Govt. of India, dedicated to eradicating poverty and promoting sustainable livelihoods in rural areas. DAY-NRLM focuses on empowering rural women through the formation of Self-Help Groups (SHGs) and community institutions. The DAY-NRLM is making concerted efforts to augment livelihoods of SHG women through multiple farm, allied and non-farm activities. Cattle rearing is one of most crucial components among these activities. It offers SHG women an opportunity to generate income, achieve self-sufficiency, and strengthen their economic prospects.

With its adaption to diverse environments and being complimentary to agriculture farming, cattle farming presents an attractive opportunity for SHG women. It is easy for farmers with even small land holding to rear cattle as the waste from the crops and fodder grown becomes nutrition for the cattle. This bulletin aims to equip the farmers with the knowledge necessary for efficient and profitable cattle rearing. The Technical Bulletin has been structured into four parts to serve as a comprehensive resource for individuals and organizations seeking to enhance their knowledge and skill in cattle farming. Each part offers specific insights and guidance, covering various aspects of cattle rearing, from its significance to selection of breeds, signs of healthy animal, feeding, health & disease management, and general management practices. By dividing the information into these distinct sections, the Technical Bulletin aims to provide a systematic and accessible resource that equips readers with the knowledge and skills necessary for successful and sustainable cattle rearing. These four parts collectively offer a valuable reference for achieving success in the field. This section introduces to the Cattle farming, its relevance, feed and fodder management for cattle. With the potential to generate sustainable livelihood, cattle offer an accessible and economically viable opportunity for women to secure their financial independence.

## Benefits of Dairy Farming:

1. **Weather Independent:** Unlike many other agricultural sectors, dairy production is **unaffected by rainfall**. The feed and fodder required for feeding the dairy animal is either produced throughout the year or could be stored as hay for dry fodder and silage for green fodder in the season of excess production.
2. **Stable Pricing:** The price of milk in the market has **consistently held steady**, even during times of supply surplus. This stability benefits both producers and consumers.
3. **Growing Demand:** The demand for dairy products continues to rise, driven by both vegetarians and non-vegetarians. This sustained demand ensures a stable market.
4. **Easy to Market:** Marketing dairy products is straightforward. There's no need for specialized shops, and marketing expenses are relatively low compared to other industries.
5. **Guaranteed Income:** Dairy farming provides a **reliable annual income**, making it a unique industry in this regard.

The technical bulletin on cattle rearing has five components viz. breeds of cattle, health management, housing of cattle and feed & fodder management. In this bulletin we are discussing about the breeds of cattle.

## Breeds of Cattle in India

India has been blessed with a large repository of indigenous bovine population with rich biodiversity. There are 50 well-defined breeds of cattle and 17 breeds of buffaloes. These breeds have evolved over generations in a particular region of the country, surviving due to their adaptability to harsh climatic conditions, ability to perform on poor quality feed and fodder, resistance to diseases etc. Adult males of some native breeds are also known for their draft qualities. Thus, these Indigenous breeds are well adapted to our existing agro-climatic conditions and are resistant to many tropical diseases and can survive and produce on marginal and poor feed and fodder resources. Some of these breeds are well known for their high milk and fat production. However, the production potential of these animals has deteriorated over a period of time due to lack of selection.

The population of some of the breeds have declined over years and the primary reason for such decline in numbers of such breeds is reduced productivity - an uneconomical proposition for farmers. The solution therefore lies in the genetic improvement of these breeds for milk production. Systematic efforts in this direction will not only ensure that these breeds become more productive, it will also arrest their further decline.

Therefore, the information about the available breeds and their role in day today life is very valuable for the farmers in selection of the cattle breed. Therefore, a list of a few of cattle with their utility i.e. milch, draught or dual purpose, breeding tract and breed characteristics being shared for their benefit.

### **Breed: Amritmahal**

#### **Breeding Tract: Karnataka**

#### **Main Uses: Transport and Draught**

- Originated in Hassan, Chikmagalur and Chitradurga district of Karnataka.
- Grey cattle but their shade varies from almost white to near black.
- Horns are long and end in sharp black points.



### **Breed: Bachaur**

#### **Breeding Tract: Bihar**

#### **Main Uses: Draught**

- Bachaur is draught breed of Bihar which also known as "Bhutia".
- Colour: Grey
- Horn Shape & Size: Horns are stumpy, curving outward and upward. Medium in size
- Visible Characteristic: Medium sized compact animals with straight back. Forehead flat or slightly convex



### **Breed: Bargur**

#### **Breeding Tract: Tamil Nadu**

#### **Main Uses: Draught**

- Found around Bargur hills in Bhavani taluk of Erode district.
- Brown colour with white markings. Some white or dark brown animal are also seen.
- Animals are well built, compact and medium in size.



**Breed: Dangi****Breeding Tract: Maharashtra and Gujarat****Main Uses: Draught**

- Nashik, Ahmadnagar (Akola taluka of Ahmadnagar district, Sinner and Igatpuritaluka of Nashik districts) Generally these animals are found near the hilly tract where forest is available in the ranges of Sahyadri.
- Colour: Dangi cattle have distinct white coat colour with red or black spots distributed unevenly over the body
- Horn Shape & Size: Horns are short (12-15 cm) and thick with lateral pointing tips Animals with inward and also with downward pointing horn tips are also available in sizable numbers
- Visible Characteristic: Uneven distribution of black or red spots over the body. Forehead is slightly protruding.

**Breed: Deoni****Breeding Tract: Maharashtra and Karnataka****Main Uses: Milk and Draught**

- Originated in Marathwada region of Maharashtra state and adjoining part of Karnataka and western Andhra Pradesh states.
- Body colour is usually spotted black and white.
- Age at first calving ranges from 894 to 1540 days with an average of 1391 days.
- Milk yield ranges from 636 to 1230 kgs with an average of 940 days.
- Caving interval averages 447 days.

**Breed: Gaolao****Breeding Tract: Maharashtra and Madhya Pradesh****Main Uses: Milk and Draught**

- Madhya Pradesh, District: Balaghat, Chhindwara, Seoni, Durg
- Colour: Gaolao animals are white or light grey. Males are generally grey over the neck
- Horn Shape & Size: Horns are short and stumpy, blunt at the points and curve slightly backward
- Visible Characteristic: Head markedly long and narrow tapering towards muzzle. Forehead recedes at the top giving a slightly convex appearance. Eyes almond shaped and placed slightly at angles.

**Breed: Gir****Breeding Tract: Gujarat****Main Uses: Milk**

- Originated in Gir forests of South Kathiawar in Gujarat.
- Basic colours of skin are white with dark red or chocolate-brown patches or sometimes black or purely red.
- Horns are peculiarly curved, giving a half-moon appearance.
- Milk yield ranges from 1200-1800 kgs.
- Age at first calving 45-54 months and inter calving period from 515 to 600 days.



**Breed: Hallikar**

**Breeding Tract: Karnataka**

**Main Uses: Draught**

- Originated from the former princely state of Vijayanagarm, presently part of Karnataka.
- The colour is grey.
- They are compact, muscular and medium size animal.
- The breed is best known for its draught capacity and especially for its trotting ability.



**Breed: Haryana**

**Breeding Tract: Haryana**

**Main Uses: Milk and Draught**

- It was originated from Rohtak, Hisar, Jind and Gurgaon districts of Haryana.
- Horns are small.
- The bullocks are good workers.
- Haryana cows are good milkers yielding on an average 1.5 kg/cow/day in a lactation period of 300 days.
- Average milk yield is 600 to 800 kgs per lactation. The age at first calving is 40-60 months



**Breed: Kangayam**

**Breeding Tract: Tamil Nadu**

**Main Uses: Draught**

- Originated in Kangayam, Dharapuram, Perundurai, Erode, Bhavani and part of Gobichettipalayam taluk of Erode and Coimbatore district.
- Coat is red at birth, but changes to grey at about 6 months of age.
- Bulls are grey with dark colour in hump, fore and hind quarters.
- Bullocks are grey.
- Cows are grey or white. However, animals with red, black, fawn and broken colours are also observed.
- The eyes are dark and prominent with black rings around them.



**Breed: Kankrej**

**Breeding Tract: Gujarat and Rajasthan**

**Main Uses: Milk and Draught**

- Originated from Southeast Rann of Kutch of Gujarat and adjoining Rajasthan (Barmer and Jodhpur district).
- Colour of the animal varies from silver-grey to iron-grey or steel black.
- The gait of Kankrej is peculiar called as 1 ¼ paces (sawai chal).
- Kankrej is valued for fast, powerful, draught cattle. Useful in ploughing and carting.
- The cows are good milkers, yielding about 1360 kgs.



**Breed: Kenkatha**

**Breeding Tract: Uttar Pradesh and Madhya Pradesh**

**Main Uses: Draught**

- Colour varies from grey on the barrel to dark grey on the rest of body.
- Horns emerge from the outer angles of the poll in markedly forward direction and terminate in sharp points.
- Small, sturdy and fairly powerful animal. Horns directed forwards.



### **Breed: Kherigarh**

**Breeding Tract: Uttar Pradesh**

**Main Uses: Draught**

- Animals have white coat colour. Some animals have grey colour distributed all over body especially on face.
- Horns are upstanding, curving outward and upward. These are thick at the base. Horn formation is typical of lyre-horned Malvi type. Horns are medium in size (15 cm).
- Small but active animal.



### **Breed: Khillar**

**Breeding Tract: Maharashtra and Karnataka**

**Main Uses: Draught**

- Originated from Sholapur and Sitapur districts of Maharashtra.
- Grey-white in colour and have quick gait



### **Breed: Krishna Valley**

**Breeding Tract: Karnataka and Maharashtra**

**Main Uses: Draught**

- Originated from black cotton soil of the water shed of the river Krishna in Karnataka.
- Animals are large, having a massive frame with deep, loosely built short body.
- Tail almost reaches the ground.
- Common colour grey white with a darker shade on fore quarters and hind quarters in male. Adult females are more whitish in appearance.
- The bullocks of this breed are powerful animals useful for slow ploughing, and valued for their good working qualities.
- The cows are fair milkers, average yield being about 916 kgs during the lactation period.



### **Breed: Malvi**

**Breeding Tract: Madhya Pradesh**

**Main Uses: Draught**

- Colour: Malvi cattle are grey- darker in males, with neck, shoulders, hump and quarters almost black. Cows and bullocks become nearly pure white with age
- Horn Shape & Size: Strong and pointed, emerge from the outer angle of the poll in an outward and upward direction. Average Size of 20-25 cm in length
- Visible Characteristic: Strong well-built whitish grey animal with lyre shaped strong and pointed horns



### **Breed: Mewati**

**Breeding Tract: Rajasthan, Haryana and Uttar Pradesh**

**Main Uses: Draught**

- Mewati cattle are usually white with neck, shoulders and quarters of a darker shade.
- Face is long and narrow with straight, sometimes slightly bulging forehead.
- Horns are outwards, upwards, inwards in majority of animals; and outwards and upward in some animals. Tips pointed. Small to medium in size.



### **Breed: Ongole**

**Breeding Tract: Andhra Pradesh**

**Main Uses: Milk and Draught**

- Home tract is Ongole taluk in Gantur district of Andhra Pradesh. Average milk yield is 1000 kgs. Age at first calving is 38-45 months with an inter-calving period of 470 days.



### **Breed: Rathi**

**Breeding Tract: Rajasthan**

**Main Uses: Milk**

- Colour: The animals are usually brown with white patches all over the body, but animals having completely brown, or black coat with white patches are often encountered. The lower body parts are generally lighter in colour as compared to the rest of body.
- Horn Shape & Size: Horns are curving outward, upward and inward. Horns are short to medium in size.
- Visible Characteristic: Body colour and horns type



### **Breed: Red Sindhi**

**Breeding Tract: Orissa, Tamil nadu, Bihar, Kerala and Assam**

**Main Uses: Milk**

- This breed mostly found in Karachi and Hyderabad district of Pakistan.
- Colour is red with shades varying from dark red to light, strips of white.
- Milk yield ranges from 1100-2600 kgs.
- Widely used in crossbreeding programmes.
- Age at first calving 39-50 months and inter calving period from 425-540 days.



### **Breed: Sahiwal**

**Breeding Tract: Punjab and Rajasthan**

**Main Uses: Milk**

- Originated in Montgomery district in present Pakistan.
- The colour is reddish dun or pale red, sometimes flashed with white patches.
- The average milk yield of this breed is between 2,725 and 3,175 kgs in lactation period of 300 days



### **Breed: Siri**

**Breeding Tract: Sikkim and West Bengal**

**Main Uses: Draught**

- Siri is a small sized draught purpose breed of hilly region of West Bengal and Sikkim. The breed is also known as "Trahbum"
- Colour: Animals are either black with white patches or Brown with white patches. In some cases, they are totally black or brown.
- Horn Shape & Size: Horns are curved outward, forward and slightly upward, and are medium in size.
- Visible Characteristic: Colour pattern similar to that of Holstein Friesian, Cervico-thoracic type of hump.



### **Breed: Tharparkar**

#### **Breeding Tract: Gujarat and Rajasthan**

#### **Main Uses: Milk and Draught**

- Tharparkar (named after the Thar Desert in Rajasthan) is a dual purpose and disease resistant cattle breed. place of its actual origin (Sind, Pakistan).
- Animals are white or light grey.
- Face is and extremities are of a darker shade than the body. These animals have convex forehead. In bulls' neck, hump, and fore and hind quarters are also dark.
- Horns are set well apart curving gradually upward and outward in the same line as that of the poll, with blunt points inclined inward, moderately thick at the base.



(Source: NBAGR; <http://14.139.252.116/agris/breed.aspx>)

## **Buffalo breeds**

### **Breed: Bhadawari**

#### **Breeding Tract: Uttar Pradesh and Madhya Pradesh**

#### **Main Uses: Milk and Draught**

- Home tract of this breed is Agra and Etawah district of Uttar Pradesh and Gwalior district of Madhya Pradesh.
- The body is usually light or copper coloured is a peculiarity of this breed. Eye lids are generally copper or light brown colour.
- Two white lines 'Chevron' are present at the lower side of the neck similar to that of Surti buffaloes.
- The average milk yield is 800 to 1000 kgs.
- The bullocks are good draught animal with high heat tolerance.
- The fat content varies from 6 to 12.5 per cent. This breed is an efficient converter of coarse feed into butterfat and is known for its high butter fat content.



### **Breed: Jaffarabadi**

#### **Breeding Tract: Gujarat**

#### **Main Uses: Milk and Draught**

- The breeding tract of this breed is Gir forests, Kutch and Jamnagar districts of Gujarat.
- The horns are heavy, inclined to droop at each side of the neck and then turning up at point (drooping horns).
- The average milk yield is 100 to 1200 kgs.
- The bullocks are heavy and used for ploughing and carting.
- These animals are mostly maintained by traditional breeders called Maldharis, who are nomads.



### **Breed: Mehsana**

#### **Breeding Tract: Gujarat**

#### **Main Uses: Milk**

- Mehsana is a dairy breed of buffalo found in Mehsana town in Gujarat and adjoining Maharashtra state.
- The breed is supposed to have been evolved out of crossbreeding between the Surti and the Murrah.
- The milk yield is 1200-1500 kgs. The breed is supposed to have good persistency.
- The inter-calving period ranges between 450-550 days.





### **Breed: Murrah**

#### **Breeding Tract: Haryana and Delhi**

#### **Main Uses: Milk**

- It is the most important breed of buffaloes whose home is Rohtak, Hisar and Jind of Haryana, Nabha and Patiala districts of Punjab and southern parts of Delhi state.
- This is otherwise called as Delhi, Kundi and Kali.
- The colour is usually jet black with white markings on tail and face and extremities sometimes found.
- The tightly curved horn is an important character of this breed.
- The buffalo cows of this breed are one of the most efficient milk and butter fat producers in India.
- Butter fat content is 7%. Average lactation yield is varying from 1500-2500 kgs and the average milk yield is 6.8 kgs /day.
- It is also used for the grading up of inferior local buffaloes.



### **Breed: Nagpuri**

#### **Breeding Tract: Maharashtra**

#### **Main Uses: Milk and Draught**

- The breeding tract of this breed is Nagpur, Akola and Amrawati districts of Maharashtra.
- These are black coloured animal with white patches on face, legs and tail. This is also called as Elitchpuri or Barari.
- The horns are long, flat and curved, bending backward on each side of the back. (Sword shaped horns).
- The age at first calving is 45-50 months with an inter-calving period of 450-550 days.



### **Breed: Nili Ravi**

#### **Breeding Tract: Punjab**

#### **Main Uses: Milk**

- This breed is found in Sutlej valley in Ferozpur district of Punjab and in the Sahiwal district of Pakistan. (Bred around Ravi river).
- The peculiarity of the breed is the wall eyes.
- The milk yield is 1500-1850 kgs per lactation.
- The inter-calving period is 500-550 days and age at first calving is 45-50 months.



### **Breed: Surti**

#### **Breeding Tract: Gujarat**

#### **Main Uses: Milk and Draught**

- The breeding tract of this breed is Kaira and Baroda district of Gujarat.
- Coat colour varies from rusty brown to silver-grey. Skin is black or brown.
- The horns are sickle shaped, moderately long and flat.
- The peculiarity of the breed is two white collars, one round the jaw and the other at the brisket.
- The milk yield ranges from 900 to 1300 kgs.
- The peculiarity of this breed is very high fat percentage in milk (8-12per cent).



These breeds could be identified by their appearance. The photographs of few of the commonly found breeds is given below:

## Cattle of Exotic Breeds

These are breeds from other countries which are high milk yielders and hence are imported in our country for giving high milk yield to the producers.

**Breed: Holstein Friesian**

**Breeding Tract: Netherland**

**Main Uses: High Milk yield**

- This breed was developed in the northern parts of Netherlands, especially in the province of Friesland.
- They are ruggedly built and they possess large udder.
- They are the largest dairy breed and mature cows weigh as much as 700kg.
- They have typical marking of black and white that make them easily distinguishable.
- The average production of cow is 6000 to 7000 kgs per lactation. However, the fat content in their milk is rather low (3.45 per cent).



**Breed: Jersey**

**Breeding Tract: British Channel Island**

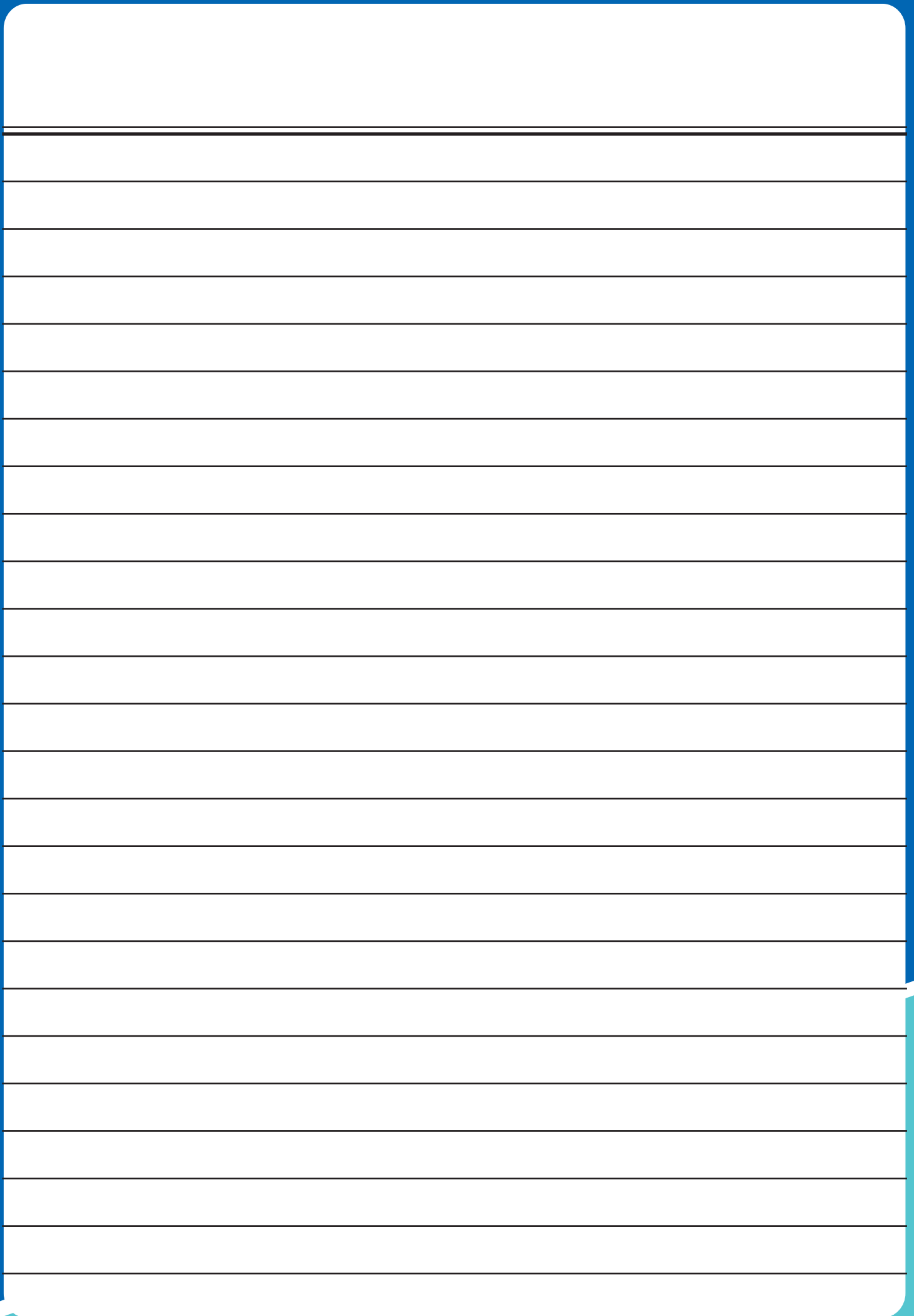
**Main Uses: High milk yielder**

- It is the smallest of the dairy types of cattle developed on island of Jersey, U.K.
- In India this breed has acclimatized well and is widely used in cross breeding with indigenous cows.
- The typical colour of Jersey cattle is reddish fawn.
- Dished fore head and compact and angular body.
- These are economical producers of milk with 5.3% fat and 15% SNF.



## Cross bred cattle

Cross breeding of cattle is done by mating non-descript breed of cow with high yielding exotic breed. It not only enhances milk production of the offspring but also gives them better potential to adopt to the existing environment. Few of the examples of cross Bred cattle are HFXGIR, HFXSAH etc.





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