

List of Registered INDIAN Breeds of Livestock & Poultry

ICAR-National Bureau of Animal Genetic Resources, Karnal (NBAGR) is the nodal agency for the registration of newly identified germplasm of livestock and poultry of the country. Total number of indigenous breeds now in the country is **212**, which include

- | | | |
|--------------------------|-----------------|-------------------|
| ➤ 53 for Cattle, | ➤ 3 of Dog, | ➤ 19 for Chicken, |
| ➤ 20 for Buffalo, | ➤ 9 for Camel, | ➤ 2 for Duck, |
| ➤ 37 for Goat, | ➤ 13 for Pig, | ➤ 1 for Geese |
| ➤ 44 for Sheep, | ➤ 3 for Donkey, | |
| ➤ 7 for Horses & Ponies, | ➤ 1 for Yak, | |

REGISTERED BREEDS OF CATTLE: 53

S.No.	Breed	Home Tract
1.	Ongole	Andhra Pradesh
2.	Punganur	
3.	Lakhimi	Assam
4.	Bachaur	Bihar
5.	Purnea	
6.	Kosali	Chhattisgarh
7.	Shweta Kapila	Goa
8.	Dagri	Gujarat
9.	Kankrej	Gujarat and Rajasthan
10.	Gir	Gujarat
11.	Belahi	Haryana and Chandigarh
12.	Hariana	Haryana, Uttar Pradesh and Rajasthan
13.	Himachali Pahari	Himachal Pradesh
14.	Ladakhi	Jammu and Kashmir
15.	Amritmahal	Karnataka
16.	Hallikar	
17.	Krishna Valley	
18.	Malnad Gidda	Kerala
19.	Vechur	
20.	Malvi	Madhya Pradesh
21.	Nimari	
22.	Red Kandhari	Maharashtra
23.	Kathani	
24.	Konkan Kapila	Maharashtra and Goa
25.	Deoni	Maharashtra and Karnataka
26.	Khillar	Maharashtra and Karnataka
27.	Dangi	Maharashtra and Madhya Pradesh
28.	Gaolao	Maharashtra and Madhya Pradesh
29.	Masilum	Meghalaya
30.	Thutho	Nagaland
31.	Red Sindhi	Pakistan – India (On organized farms only)
32.	Ghumusari	Orissa
33.	Binjarpuri	
34.	Khariar	
35.	Motu	Orissa, Chhattisgarh and Andhra Pradesh
36.	Sahiwal	Punjab and Rajasthan
37.	Nagori	Rajasthan
38.	Rathi	
39.	Tharparkar	
40.	Sanchori	

41.	Nari	Rajasthan and Gujarat
42.	Mewati	Rajasthan, Haryana and Uttar Pradesh
43.	Siri	Sikkim and West Bengal
44.	Bargur	Tamil Nadu
45.	Kangayam	
46.	Umblachery	
47.	Pulikulam	
48.	PodaThurpu	Telangana
49.	Kherigarh	Uttar Pradesh
50.	Ponwar	
51.	Gangatiri	
52.	Kenkatha	Uttar Pradesh and Madhya Pradesh
53.	Badri	Uttarakhand

REGISTERED BREEDS OF BUFFALO: 20

Sl. No	Breed	Home Tract
1.	Luit (Swamp)	Assam and Manipur
2.	Chhattisgarhi	Chhattisgarh
3.	Mehsana	Gujarat
4.	Surti	
5.	Banni	
6.	Jaffarabadi	
7.	Murrah	Haryana, Delhi, Punjab, UP
8.	Dharwadi	Karnataka
9.	Marathwadi	Maharashtra
10.	Nagpuri	
11.	Pandharpuri	
12.	Purnathadi	
13.	Kalahandi	Odisha / Orissa
14.	Manda	
15.	Chilika	
16.	Nili Ravi	Punjab
17.	Gojri	Punjab and Himachal Pradesh
18.	Bargur	Tamil Nadu
19.	Toda	
20.	Bhadawari	Uttar Pradesh and Madhya Pradesh

REGISTERED BREEDS OF GOAT: 37

S.No.	Breed	Home Tract
1.	Teressa	Andaman & Nicobar
2.	Assam Hill	Assam and Meghalaya
3.	Gohilwadi	Gujarat
4.	Kutchi	
5.	Mehsana	
6.	Surti	
7.	Zalawadi	
8.	Kahmi	
9.	Chegu	Himachal Pradesh
10.	Gaddi	

11.	Changthangi	Jammu and Kashmir
12.	Bhakarwali	
13.	Bidri	Karnataka
14.	Nandidurga	
15.	Attapady	Kerala
16.	Malabari	
17.	Osmanabadi	Maharashtra
18.	Sangamneri	
19.	Konkan Kanyal	
20.	Berari	
21.	Sumi-Ne	Nagaland
22.	Ganjam	Orissa
23.	Beetal	Punjab
24.	Jakhrana	Rajasthan
25.	Marwari	
26.	Sojat	
27.	Karauli	
28.	Gujari	
29.	Sirohi	Rajasthan and Gujarat
30.	Kodi Adu	Tamil Nadu
31.	Salem Black	
32.	KanniAdu	
33.	Jamunapari	Uttar Pradesh
34.	Rohilkhandi	
35.	Barbari	Uttar Pradesh and Rajasthan
36.	Pantja	Uttarakhand and Uttar Pradesh
37.	Black Bengal	West Bengal

REGISTERED BREEDS OF SHEEP: 44

S.No.	Breed	Home Tract
1.	Nellore	Andhra Pradesh
2.	Deccani	Andhra Pradesh and Maharashtra
3.	Tibetan	Arunachal Pradesh
4.	Shahbadi	Bihar
5.	Patanwadi	Gujarat
6.	Panchali	
7.	Gaddi	Himachal Pradesh
8.	Rampur Bushair	
9.	Bhakarwal	Jammu and Kashmir
10.	Gurez	
11.	Karnah	
12.	Poonchi	
13.	Changthangi	
14.	Chottnagpuri	Jharkhand
15.	Bellary	Karnataka
16.	Hassan	
17.	Kenguri	
18.	Mandya	
19.	Kendrapada	Odisha / Orissa
20.	Balangir	
21.	Ganjam	

22.	Kajali	Punjab
23.	Chokla	Rajasthan
24.	Jaisalmeri	
25.	Magra	
26.	Malpura	
27.	Nali	
28.	Pugal	
29.	Sonadi	
30.	Marwari	Rajasthan and Gujarat
31.	Bonpala	Sikkim
32.	Coimbatore	Tamil Nadu
33.	Kilakarsal	
34.	Madras Red	
35.	Mecheri	
36.	Nilgiri	
37.	Ramnad White	
38.	Tiruchi Black	
39.	Vembur	
40.	Katchaikatty Black	
41.	Chevaadu	
42.	Jalauni	
43.	Muzzaffarnagri	Uttar Pradesh and Uttarakhand
44.	Garole	West Bengal

REGISTERED BREEDS OF HORSES & PONIES: 7

S.NO.	Breed	Home Tract
1.	Bhutia	Sikkim and Arunachal Pradesh
2.	Kathiawari	Gujarat
3.	Manipuri	Manipur
4.	Marwari	Rajasthan
5.	Spiti	Himachal Pradesh
6.	Zanskari	Jammu and Kashmir
7.	Kachchhi-Sindhi	Gujarat and Rajasthan

Registered Breeds of Camel: 9

S.No.	Breed	Home Tract
1.	Kharai	Gujarat
2.	Kutchi	
3.	Malvi	Madhya Pradesh
4.	Bikaneri	Rajasthan
5.	Jaisalmeri	
6.	Jalori	
7.	Marwari	
8.	Mewari	
9.	Mewati	Rajasthan and Haryana

REGISTERED BREEDS OF DOGS: 3

S.No.	Breed	Home Tract
1.	Rajapalayam	Tamil Nadu
2.	Chippiparai	
3.	Mudhol Hound	Karnataka

REGISTERED BREEDS OF PIG: 13

S.No.	Breed	Home Tract
1.	Nicobari	Andaman & Nicobar
2.	Doom	Assam
3.	Purnea	Bihar and Jharkhand
4.	Agonda Goan	Goa
5.	Banda	Jharkhand
6.	Manipuri black	Manipur
7.	Niang Megha	Meghalaya
8.	Wak chambil	
9.	Zovawk	Mizoram
10.	Tenyi Vo	Nagaland
11.	Mali	Tripura
12.	Ghurrah	Uttar Pradesh
13.	Ghoongroo	West Bengal

REGISTERED BREEDS OF DONKEY: 3

S.No.	Breed	Home Tract
1.	Spiti	Himachal Pradesh
2.	Halari	Gujarat
3.	Kachchi	

REGISTERED BREEDS OF YAK: 1

S.No.	Breed	Home Tract
1.	Arunachali	Arunachal Pradesh

REGISTERED BREEDS OF CHICKEN: 19

S.No.	Breed	Home Tract
1.	Nicobari	Andaman & Nicobar
2.	Danki	Andhra Pradesh
3.	Kalasthi	
4.	Ghagus	Andhra Pradesh and Karnataka
5.	Daothigir	Assam
6.	Miri	
7.	Aseel	Chhattisgarh, Orissa and Andhra Pradesh
8.	Ankaleshwar	Gujarat
9.	Busra	Gujarat and Maharashtra
10.	Kashmir Favorolla	Jammu and Kashmir
11.	Tellichery	Kerala
12.	Kadaknath	Madhya Pradesh
13.	Kaunayen	Manipur
14.	Chittagong	Meghalaya and Tripura
15.	Hansli	Odisha
16.	Punjab Brown	Punjab and Haryana
17.	Mewari	Rajasthan
18.	Uttara	Uttarakhand
19.	Harringhata Black	West Bengal

REGISTERED BREEDS OF DUCK: 2

S.No.	Breed	Home Tract
1.	Pati	Assam
2.	Maithili	Bihar

REGISTERED BREEDS OF GEESE: 1

S.No.	Breed	Home Tract
1.	Kashmir Anz	Jammu & Kashmir

SALIENT FEATURES OF SOME OF THE REGISTERED BREEDS

CATTLE BREEDS:

- The genus *Bos*, is classified into *Bos indicus* (Tropical, humped cattle) and *Bos taurus* (temperate, hump-less cattle)
- The *Bos taurus* is again divided into three subgroups:
 - *Bos primigenius* – Strong horns, narrow fore head. Example-Ayrshire, Short-horn, HF, Red Poll.
 - *Bos longifrons* – Broad and dished fore head. Example - Jersey, Guernsey, Brown Swiss.
 - *Bos brachycephalus* – Short and broad head. Example - Canadian, Hereford, Kerry.

Classification of **Indian / Indigenous** Cattle breeds:

- ✚ On The Basis of Utility
- ✚ On The Basis of Type / Phenotype

Classification based on **UTILITY**:

1. **Dairy/Milch breeds** (1500 to 2200 lit./lactation): Cows are good milk producers, but bullocks are of poor draught quality. Ex. Sahiwal, Red Sindhi, Gir
2. **Draught breeds**: Cows produce little milk; Bullocks are good draught animals. Ex. Hallikar, Amritmahal, Khillari, Kangayam, Siri, Vechur
3. **Dual purpose/General utility breeds** (1100 to 1700 lit./lactation): Cows fairly good milkers, Bullocks provide good draught power. Ex. Tharparkar, Hariana, Ongole, Kankrej, Deoni
 - a. Dual purpose breeds are of *two types*
 - i. **Short horned**, white or light grey cattle with long coffin shaped skull and face, slightly convex in profile Eg: Nimari, Dangi, Hariana, Mewati, Rathi, Ongole, Gaolao,
 - ii. **Lyre –horned**, grey cattle, deep bodied with wide forehead, prominent orbital arches, flat or dished in profile and good draught capacity. Eg: Tharparkar, Kankrej

Classification Of Zebu Cattle Breeds Based on **PHENOTYPE**:

GROUP I: Broad faced lyre horned (having two symmetrical curved horns run between the base). Grey-white colored flat or dished forehead. Found in western India. Eg: Kankrej, Kherigarh, Malvi, Tharparkar, Kenkatha etc.

GROUP II: White or grey colored. Coffin shaped skull and orbital arches. Eg: Hariana, Mewati, Ongole, Nagori, Bachaur, Rathi, Gaolo, Krishna valley etc.

GROUP III: Heavily built with lateral and even curled horns. Dewlap and sheath are pendulous. Usually spotted either red or white. Eg: Gir, Sahiwal, Red sindhi, Deoni, Dangi, Nimari, Red Kandhari etc.

GROUP IV (*Mysore type*): Medium sized but compact. Powerful quarters and tight sheaths. Pointed long horns emerged from the top of the poll in upward and backward direction. Eg: Amritmahal, Hallikar, Kangayam, Khillari, Bargur etc.

GROUP V: Found in hilly tracts of northern India. Small, black, red or colored often with large patches and white markings. Eg: Siri, Ponwar etc.

Some important Points to be remembered:

- ✓ **SAHIWAL** (Lambi Bar, **Lola** ((loose skin i.e., hanging dewlap), Montgomery, Multani & Teli) - **Best Dairy Breed** of Zebu Cattle in the world.
- ✓ **RED SINDHI** (Malir (Baluchistan), **Red Karachi** & Sindhi) - Distinct red colour and darker than Sahiwal.
- ✓ **GIR** (Bhodali, Desan, Gujarati, Kathiawari, Sorthi, And Surati) – Gujarat –Half Moon shaped horns - Droopy/hanging/pendulous/*curled leaf like Ears with notch at the tip* - Sleepy eyes with sunken eye balls.
- ✓ **DEONI** (Surti, Dongarpati, Dongri, **Wannera, Waghyd/ Shevera, Balankya &**, Devani/ Dongarapatti/ cattle of Bombay) - Karnataka, Maharashtra.
- ✓ **THARPARKAR** (White Sindhi, Grey Sindhi, Thari) - **Handsome cattle breed of India.**
- ✓ **RATHI** – Rajasthan - Originated from the mixture of Sahiwal, Red Sindhi, Tharparkar and Dhanni breeds apparently with a preponderance of Sahiwal blood.
- ✓ **AMRITMAHAL** (Doddadana, Jawari dana, Number dana) – Karnataka - **Famous draught breed** known for its power and endurance.
- ✓ **KANKREJ** (Wadad / Waged, Vagadia, Talabda, Nagar, Bonnai) – Gujarat - **Lyre shaped horns - Sawai Chal** gait (1¼ paces =Royal Stride) - **Heaviest Breed of Cattle in India.**
- ✓ **ONGOLE** (Nellore) - Andhra Pradesh - **Padakateeru (Glossy White Coat)** - Males have Dark Grey Markings (**7 Blacks**) on Head, Neck & Hump, Knees & Pasterns, Black Muzzle & Black Eye-lashes - Short & Stumpy horns - **Majestic Gait, Large Fan Shaped & Fleshy Dewlap** serrated with smooth flowing folds instead of narrow constrictions.
- ✓ **DANGI** (Kandadi) – Gujarat - adapted to Heavy Rainfall, Rice Fields & Hilly Tracts - **skin exudes an Oily Secretion** which protects from heavy rain.
- ✓ **GAOLAO** (Arvi, Gaulgani) - MP & Maharashtra - **Almond shaped eyes** placed at an angle - fast trotting type breed suitable for quick transportation in hilly areas.
- ✓ **BACHAUR** (Bhutia) - Bihar – Draught purpose – thrives well on poor fodder resources.
- ✓ **BADRI** (Pahadi) - **First certified cattle breed of Uttarakhand** - Milk and draught.
- ✓ **BOVINE GLADIATORS – JALLIKATTU – TN - Bargur, Kangayam, Pulikulam, Umblachery, Tiruchengodu**
- ✓ **BARGUR** (Semmarai) – TN - evolved from Hallikar * Red country cows - Reared in the forest area and are penned in enclosures called PATTYS (Each with 50 to 200 heads of cattle)
- ✓ **PULIKULAM** (Palingu Maadu, Mani Maadu, Jallikattu Maadu, Mattu Maadu, Kilakattu Maadu, Kilaka) - used for penning in the fields - KIDAI MADU - Reddish or brownish points at muzzle, eyes, switch, hooves and back is characteristic, popularly known as “**SENTHARAI**” - Fore head is broad with central groove.
- ✓ **KANGAYAM** (Kanganad, Kongu) - **Horns** are Crescent shaped with **Cobra Hood appearance.**
- ✓ **UMBLACHERY** (Jathimadu, Mottaimadhu, Molaimadhu, Southern, Tanjore, Therkuthimadhu) - White Markings (star) on face, limbs and tail. All legs below hocks have white socks or as stockings & white hooves.

- ✓ **BELAHI** (Morni, Desi) – Haryana - *Sickle shaped horns.*
- ✓ **HALLIKAR** (Mysore) – Karnataka - *Best Draught Breed of Southern India.*
- ✓ **KHILLAR** (Mandeshi, Shikari, Thillar) - Karnataka & Maharashtra - Originated from Hallikar or Amritmahal. – *Long sweeping pointed horns.*
- ✓ **HARIANA** (Hansi) - *Prominent first-class Dual-Purpose Breed of North India.*
- ✓ **LADAKHI** – J & K - Milk has *high fat percentage (5%)* - used for producing butter and *Churpi* (cheese) - Well adapted to high altitude, extreme cold climatic and hypoxic conditions.
- ✓ **MALNAD GIDDA** (Gidda, Uradana =Village Cow, Varshagandhi=One Calf Every Year) – Karnataka - Dwarf
- ✓ **MALVI** (Mahadeo Puri, Manthani) – MP - *Lyre Shaped Horns* with *Horizontally held Ears.*
- ✓ **NAGORI** – Rajasthan - *Narrow Face like that of a Horse.*
- ✓ **NIMARI** (Khargaon, Khargoni, Khurgoni) – MP - Originated from *Crossing of Gir and Khillari* - Brownish Red (Copper) & White, giving Spotted Appearance (Chitkabri) - *Copper or Amber Coloured Muzzle.*
- ✓ **PONWAR** (Purnea) - Uttar Pradesh – Draught - *Horns are Long Upstanding.*
- ✓ **PUNGANUR** - Andhra Pradesh (Chittoor) - Milk has a High Fat i.e., 8% - Short to Medium sized, *Crescent Shaped Horns* – Dwarf & Extensively Hanging Dewlap - One of the World’s Smallest Humped Breeds of Cattle.
- ✓ **RED KANDHARI** (Lakhalbunda) – Maharashtra - uniform deep dark red, dull red to almost brown - Black Ring Around Hoofs & eyes.
- ✓ **SIRI** (Trahbum) - WB, Darjeeling & Sikkim - Colour pattern similar to that of HF, *Cervico - Thoracic type* of Hump covered with a *Tuft of Hair.*
- ✓ **VECHUR** – Kerala - Milk & Manure - *Smallest humped Cattle Breed in the World.*
- ✓ **KASARGOD** – Kerala – Draught - *Worlds Second smallest cattle breed.*
- ✓ **HIMACHALI PAHARI** – HP - Protein in the Milk is *Good for Diabetes & also in Fighting other Diseases.*
- ✓ **MALAI MADU** – TN - Best for *Rekla Race and Jallikattu.*
- ✓ **PODA THURPU** – Telangana – Draught Purposes.
- ✓ **NARI** – Rajasthan – Dual purpose - *Spirally Curved Horns.*
- ✓ **THUTHO/ THO-THO** (Ashucho, Ameshi, Sheapi, Chokru, Tseso) – Nagaland - MEAT, Milk, Dung, Draught.
- ✓ **SHWETA – KAPILA** – Goa
- ✓ **PURNEA** – Bihar.

EXOTIC BREEDS OF CATTLE:

Milch breeds	Beef breeds	Dual purpose breeds
Ayrshire, HF, Jersey, Guernsey, Red Dane, Brown Swiss, Dexter, Dutch Belted	Hereford, Short horn, Polled short horn, Galloway, Aberdeen Angus, Brahman, Beef master, Charolais	Red Polled, Devon, Milking short horn, Short horned, Long horned, Welsh black, Red Dane

- **HOLSTEIN FRIESIAN (HF):** Holland / Netherlands - *World’s heaviest dairy cattle breed - World’s highest milk & lowest fat % yielding breed* - perform well in coastal and delta areas of India.
- **JERSEY:** Island of Jersey in Great Britain - *Smallest of European breeds* - Commonly *Fawn-colored* with *Double Dished Face* - more heat tolerant than the larger breeds - Used for crossbreeding of ND cattle in hilly and heavy rainfall areas.
- **BROWN SWISS:** Switzerland - *Second Heaviest Breed after HF - Highest milk lactose content (5%).*

- AYRSHIRE: Scotland - Reddish spots over white color - *Most Beautiful of The Dairy Cattle Breeds*.
- GUERNSEY: British Island of Guernsey - *Golden in Color* with White / Brown Spots & white patches - *Golden Yellow coloured Milk due to beta-Carotene*.
- **Milk Production = HF > BS > Ayrshire > Guernsey > Jersey > RD**

BUFFALO BREEDS:

Bubalus bubalis; Swamp buffalo: 2n=48 & Riverine buffalo: 2n=50; Cattle: 2n=60.

Classification: **Region wise:**

Murrah Group	Gujarat	Uttar Pradesh	Central Indian	South Indian
Murrah, Kundi, Nili-ravi, Godavari	Surti, Banni, Jaffarabadi, Mehsana	Bhadawari, Tarai	Nagpuri, Pandhapuri, Sambalpuri, Manda, Kalahandi, Jerangi, Marathwadi, Chilika	Toda, South canara, Bargur, Dharwadi

Utility classification:

- ✚ **Superior** milch breeds – AMY = >1500kg - Eg: Murrah, NiliRavi, Surti, Mehsana
- ✚ **Average** Milch breeds – AMY = 500-1000kg - Eg: Jaffarabadi, Nagpuri, Bhadawari
- ✚ **Draught** breeds – AMY = <500 kg - Eg: Toda

Some important Points to be remembered:

- ❖ **MURRAH** (Delhi, Kundi, Kali, pride of Haryana or Black Gold): Punjab, Haryana and Delhi - *Jet Black* color - *tightly curled spiral horns* - High-yielding Murrah is the *Holstein-Friesian of the buffalo world*.
- ❖ **NILI - RAVI** (Pancha Kalyani): Punjab & West Pakistan - *double chin* - Black with white markings on fore head, face, muzzle, tail and legs-hocks - *Panch Kalyani - Wall Eyes*.
- ❖ **MEHSANA** (Mahesani, Mehsani) – Gujarat- *Cross b/w Surti & Murrah* - Horns of a Ram - *Persistent Milker & Regular Breeder*.
- ❖ **JAFFARABADI** (Bhavanagri, Gir, Jaffari) - *Heaviest of all the Indian breeds of buffaloes* - Gujarat- Gir Forest – *Heavy Drooping U / J shaped horns* - Study Eye or “Sleepy Eyes” appearance, especially in adult males - white spot-on forehead - *Nav Chandra*.
- ❖ **SURTI** (Charotari, Deccani, Gujarati, Nadiadi and Talabda) – Gujarat - *Sickle Shaped Horns* - Two White Bands / collars (*chevrons*) Below the Neck -collars-one around the jowl and, another around the brisket - small buffalo - Economical milk producer - Main Stay Of Anand Milk Union, Gujarat.
- ❖ **BHADAWARI** (Etawah) - UP & MP - *Copper coloured* body - *Highest Fat % (>11% (6-12.8%))* - Colour of Legs is like Wheat Straw - Two white lines "*Chevron*" locally called as Kanthy are present on the Lower side of the Neck – *Ghee Bowl of India*.
- ❖ **NAGPURI** (Eltchpuri, Barari, Berari, Gaorani, Puranthadi, Varhadi, Ellichpuri, Gaolavi, Arvi, Gaolaogan, Gangauri, Shahi, Chanda) – Maharashtra - Black Coloured Animals with White Patches - 4 strains: Purnathadi, Ellichpuri, Gaulani, Nagpuri - *Sword shaped horns nearly to Shoulders* - Depending upon the degree of white patches on the forehead and nasal portion these animals are locally called as “Ardh-Chandri, Chandri, Gal-Bhondi and Kapal-Bhondi”.
- ❖ **PANDHARPURI** (Dharwari) – Maharashtra - *Very Long horns beyond Shoulder Blade, Sometimes to Pin Bones*.

- ❖ **MARATHWADI** (Ellichpuri, Dudhana Thadi) – Maharashtra - Horns are Parallel to the Neck, reaching up to Shoulder but Never beyond Shoulder blade - Length of Horns Differentiate these buffaloes from Pandharpuri buffaloes.
- ❖ **TODA** – Tamilnadu - Nilgiri - **Crescent Shaped Horns** in Semicircle - Thick hair coat all over the body – gregarious - Two Chevron markings - one just around the Jowl and the other anterior to the Brisket - **Milk Is Sweet Flavoured – Swamp type.**
- ❖ **GODAVARI** - Andhra Pradesh - **Grading up of Local Non-descript Buffaloes with Murrah Breed - bowl-shaped udder.**
- ❖ **GOJRI** - Punjab & HP - Medium horns curved to form a Big Loop (Pattih Wale Seengh) - Tick-resistant Buffalo Breed.
- ❖ **CHILIKA** – Odisha - The **Milk and Curd have Better Taste and Preservation Quality** - The Curd from Milk of Chilika buffalo can be Preserved for 5-7 Days at Room Temperature.
- ❖ **SOUTH KANARA** – Karnataka - Used in The Local Buffalo Races Called “**Kambala race**”.
- ❖ **DHARWARI** (Dharwadi, Holesal, Mundargi) - Northern Karnataka - Closely Resembles Pandharpuri Breed - Strong Herding Instinct - **Milk is used for preparation of famous Dharwad Peda with GI tag.**

SHEEP BREEDS: *Ovis aries*

Classification: Exotic & Indigenous breeds.

Indigenous breeds	Exotic breeds
1. Based on Agroclimatic zones 2. Based on Utility 3. Based on Morphology	1. Based on Utility

I. Based on Agro-Climatic/Ecological Regions:

North Temperate Region	North-Western, Central Arid and Semi Arid Region	Southern Peninsular Region	Eastern Region
1. Bhakarwal (CW) 2. Changthangi (CW) 3. Gaddi (CW) 4. Gurez (CW) 5. Karnah (AW) 6. Kashmir Merino (AW) 7. Poonchi (CW) 8. Rampur Bushair (CW)	9. Kajali 10. Chokla (CW) 11. Hissardale (AW) 12. Jaisalmeri (MCW) 13. Jalauni (MCW) 14. Kheri (MCW) 15. Magra (CW) 16. Malpura (MCW) 17. Marwari (MCW) 18. Muzaffarnagari (MCW) 19. Nali (CW) 20. Patanwadi (CW) 21. Pugal (MCW) 22. Sonadi (MCW) 23. Munjal (M) 45. Panchali	24. Bellary (MCW) 25. Coimbatore (MCW) 26. Deccani (M) 27. Hassan (M) 28. Kenguri (M) 29. Kilakarsal (M) 30. Madras Red (M) 31. Mandya (M) 32. Mecheri (M) 33. Nellore (M) 34. Nilgiri (AW) 35. Ramnad White (M) 36. Tiruchy Black (M) 37. Vembur (M)	38. Balangir (MCW) 39. Bonpala (MCW) 40. Chottanagpuri (MCW) 41. Ganjam (MCW) 42. Garole (M) 43. Tibetan (CW) 44. Shahabadi (CW)

*(AW)=Apparel wool; (CW)=Carpet wool; (MCW)=Mutton and Carpet wool; (M)=Mutton

1. **Northern Temperate region** - most important for **fine quality wool production** in the country.
2. **North-western, Central Arid and Semi-arid region** - **2nd largest population** of sheep of the four regions. Wool produced is mostly suited for manufacturing carpets, pelts and blankets.
3. **Southern peninsular region** - This region has the **largest population of the country** i.e., 51.4% of the total. Most sheep in this region are maintained primarily for meat, except the Nilgiri sheep (Wool).
4. **Eastern region:** In this region, sheep breeds are **Prolific**.

II. Based on utility:

1. **Wool purpose breeds:** They produce good quality and quantity of wool. These sheep are mainly seen in Australia, Spain, and Russia etc. Few examples are Rambouillet, Soviet Merino etc. Indian breeds are Gaddi, Gurez and Karnah from HP.

2. **Meat purpose breeds:** These breeds of sheep produce good quality and quantity of meat. There are fast growing breeds and gain more body weight in short time. The examples of Indigenous breeds are Malpura, Sonadi, Macheri, Ramnad, Vembur etc. and examples of Exotic breeds are Rambouillet, Dorset horn, and South Down.

3. **Dual purpose breeds** (Both meat and wool): These breeds produce fairly more quantities of meat and wool as compared to native breeds. Few examples of Indian breeds are Deccani, Hassan, Nali, Coimbatore, Ganjam etc. These breeds are acclimatized to their areas of a country.

India has produced many varieties of cross breed sheep suitable for different climates such as Kashmiri Merino, Avikalin, Avivastra and Bharath Merino etc.

Based on Utility, Indian breeds of sheep can be classified into the following: -

a) **Apparel wool breeds:** Hissardale, Nilgiri, Kashmir Merino, Avivastra, Bharat Merino. These are crossbreeds of native sheep with exotic fine wool/dual-purpose/mutton breeds.

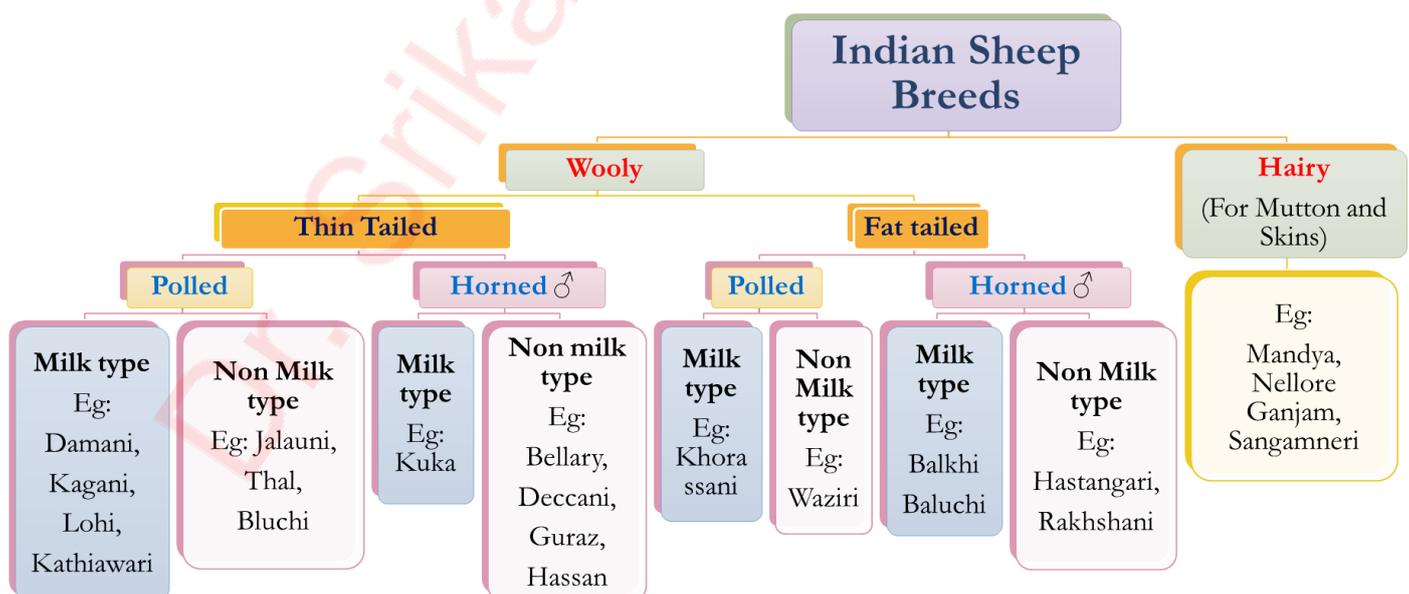
b) **Superior carpet wool breeds:** Chokla, Nali, Magra, Jaisalmeri, Pugal, Patanwadi, Tibetan, Bonpala, Gaddi, Rampur Bushair, Poonchi, Karnah, Gurez, Changthangi, Avikalin.

c) **Coarse carpet wool breeds:** Malpura, Sonadi, Muzaffaranagari, Jalauni, Deccani, Bellary, Coimbatore, Chhotanagpuri, Balangiri, Ganjam, Bhakarwal, Shahabadi

d) **Hairy meat breeds:** Nellore, Mandya, Hassan, Mecheri, Kilakarsal, Vembur, Ramnad White, Madras Red, Tiruchi Black, Kenguri. These sheep are maintained primarily for meat almost in the whole of Southern Peninsular region. The wool produced is very coarse, hairy and coloured; below 36s quality; and suitable only for extremely rough carpets, barrack blankets and kamblies.

e) **Meat, Wool, Milk: Sonadi**

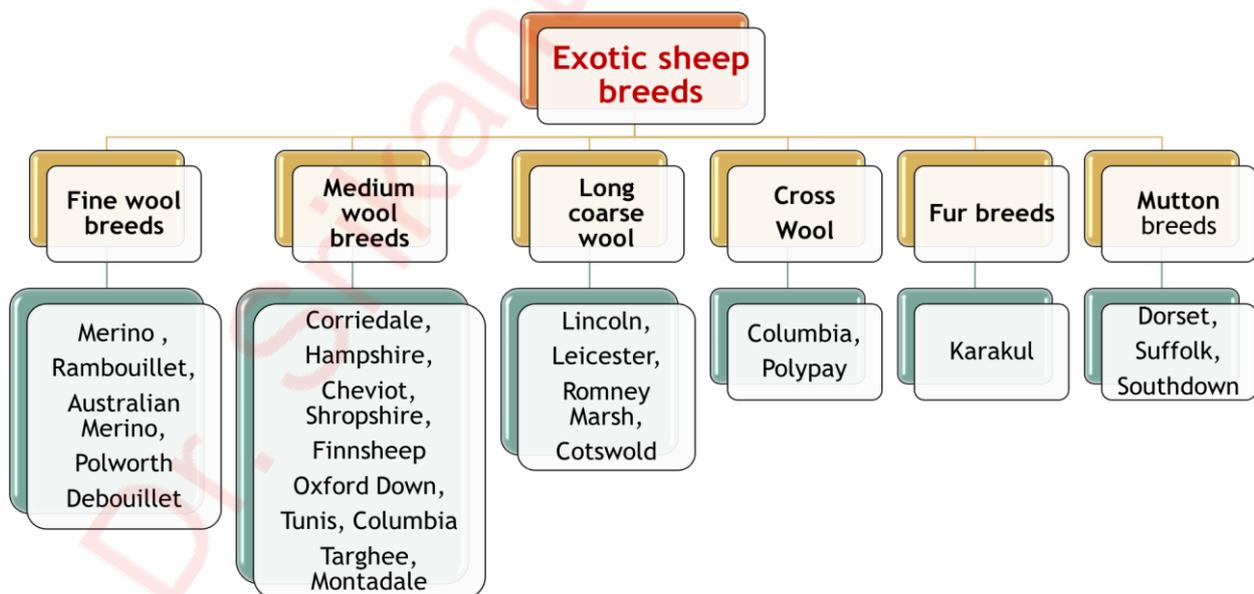
III. Based on Morphology:



Some important points to remember:

- ☑ **GUREZ** - *Largest of Kashmir breeds.*
- ☑ **CHANGTHANGI** – High altitude sheep - *tolerates hypoxia.*
- ☑ **CHOKLA** /Chapper and Shekhawati, Raata munda - *Finest wool among all Rajasthan breeds* – Best carpet wool breed.
- ☑ **MAGRA** – *Most lustrous wool breed.*
- ☑ **HISSARDALE** - medium fine wool breed, through crossing Australian Merino rams with Bikaneri (Magra) ewes; the exotic inheritance is stabilized at about 75%.
- ☑ **MALPURA**/Malpuri – Rajasthan - *Excellent mutton breed* of north western semiarid region of India.
- ☑ **MUZZAFARNAGRI** /Bulandshahri - *Heaviest and largest sheep breeds of India.*
- ☑ **NALI** /Desi - Rajasthan, Haryana - *Wool is yellow* (March) to Golden brown in color (September).
- ☑ **SONADI** / Desi, Laapdi, Bhagli - *Triple purpose breed.*
- ☑ **KAJALI** / Kali (Black) Kajali, Chitti (White) Kajali – Punjab - for mutton production
- ☑ **MANDYA** (Bannur or Bandur) – Karnataka - Unique in mutton quality, Compact body with a *typical reverse U-shape* conformation from the rear – *Best mutton sheep breed.*
- ☑ **MECHERI**/Mailyambadi, Thuvaramchambali, Kannivadi - Tamil Nadu. The *Skin is of the finest quality* among all the sheep breeds in India and is highly priced.
- ☑ **NELLORE** - Andhra Pradesh, Hair type meat breed of the south India. *Tallest sheep breed of India.* 3 strains – Jodipi (White & Black), Palla (White), Dora (Brown). *Goat like sheep.*
- ☑ **GAROLE**/Meda, Bheda (West Bengal), KENDRAPADA / Kuji mendha(Orissa)- *Highly Prolific (FecB Gene)*
- ☑ **AVIVASTRA** - Rambouillet X Chokla & Nali
- ☑ **AVIKALIN** - Rambouillet X Malpura
- ☑ **BHARAT MERINO** - Rambouillet & Merino X Chokla & Nali
- ☑ Few examples of breeds seen in Karnataka include Bannur, Deccani, Hassan, Bellary, Chitradurga, Kenguri etc

EXOTIC SHEEP BREEDS:



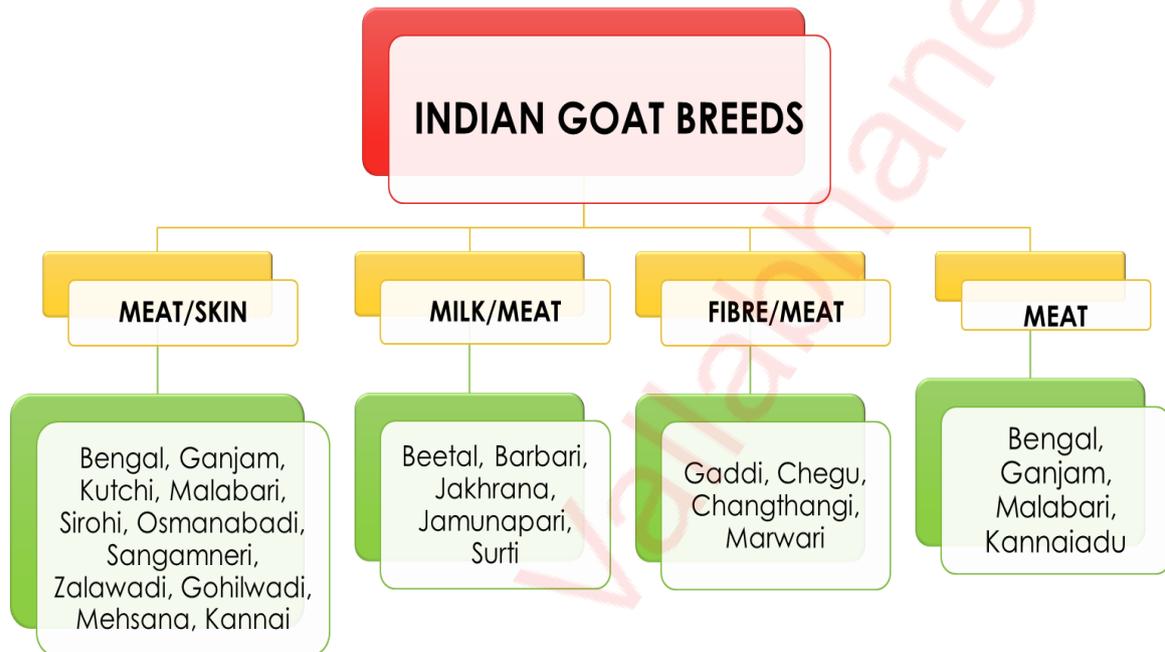
- ✓ Merino & Rambouillet – Spain – *Fine wool* breed
- ✓ Corriedale – New Zealand – Mutton & Medium wool
- ✓ Dorset & Suffolk – England – *Meat type*
- ✓ Karakul – Central Asia - Pelt breed.
- ✓ Booroola - New Zealand- *Booroola fecundity (FecB) gene* on chromosome 6 - high ovulation rate & litter size.

GOAT BREEDS: *Capra hircus* (2n=60)

Classification based on **BODY WEIGHT & SIZE**:

1. *Large Size*: Jamunapari, Beetal, Jakhrana, Sirohi
2. *Medium Size*: Marwari, Kutcha, Surti, Barbari, Mehsana, Gohilwadi, Kannaiadu, Malabari, Sangamneri, Ganjam, Osmanabadi, Chegu, Changthangi
3. *Small Size*: Black Bengal

Classification based on **UTILITY**:



Classification based on **REGION**:

Temperate himalayan region	North western region	Central Region [RAJ, MP, GUJ, MAH]	Southern Region [MAH, GUJ, AP, TN, KERALA]	Eastern region
Gaddi Chegu Changthangi Kashmiri Bhakarwali [J&K, HP, Hills of UP]	Jamunapari Beetal Barbari Rohilkhandi Pantja [PUNJAB, HARYANA, PARTS OF UP]	Sirohi Jakhrana Marwari Zalawadi Gohilwadi Mehsana Surti Kutchi Belari Kathiawari Kahmi	Malabari Osmanabadi Sangamneri Kannaiadu Kodiadu Salem black Attapady Bidri Nandidurga Konkan kanyal Berari	Black bengal Ganjam Assam hill Sumi-ne [WB, ASSAM, TRIPURA, ORISSA, BIHAR]

- ❖ The goats of Temperate Himalayan region (where the rain fall is scanty) grow fibres of good quality and finest undercoat called 'Cashmere' or 'Pashmina'.
- ❖ All the milk breeds are found in the Northwestern region of the country
- ❖ Southern and Western (Central) regions mainly possess dual-purpose breeds (milk and meat).
- ❖ The highly prolific meat breeds are found in Eastern region.

Some points to remember:

- ♣ **BERKSHIRE:** England - **Black color, six white tips** (one at end of each leg and one each on snout, tail - short snout, characteristic upturned nose, small prick & **erect ears** - **Oldest English breed of Swine**.
- ♣ **POLAND CHINA:** USA - long head and **Droopy ears** - **Black with 6 white spots** on body due to introduction of Berkshire blood.
- ♣ **HAMPSHIRE:** USA - Black body with a **white saddle/Belt** in the front and includes both front legs and feet – **Erect ears**
- ♣ **WESSEX SADDLE BACK:** England - **Ears are lippy** - Head, neck, hind quarters, hind legs and tail are black but there is **white saddle** covering shoulders and forelegs.
- ♣ **TAMWORTH:** England - **Golden red** in color - Face is slender, ending in a long fine snout - Ears carried Erect, horizontally and forward.
- ♣ **DUROC:** America - slightly concave head - Body coat is **red brown, gold to dark red** - Droopy horizontal Ears - Outcome of blending Jersey Reds and Durocs of New York.
- ♣ **LARGE WHITE YORKSHIRE:** England - Large body, long snout - **Ears are big triangular, erect** - Entirely White in colour with black pigment spots called “**Freckles**” - Known as “**The Mother Breed**” - Extensively used 4 crossbreeding.
- ♣ **MIDDLE WHITE YORKSHIRE:** England - **Face is upturned and dished** - **Excellent pork pig**.
- ♣ **CHESTER WHITE:** USA - white hair and skin - medium breed with all good qualities - Droopy Ears - Mother Type breed.
- ♣ **HEREFORD:** USA - Dwarf breeds – **Red colored** with white head including ears, feet, underline, switch of tail.
- ♣ **SPOTS:** USA - Meat Type - Droopy Ears - Half white & Half black clearly defined spots - First known as the Spotted Poland China.
- ♣ **LANDRACE:** **Denmark** - Mother type breed - Heavy lop/ droopy Ears - white skin – pork type breed
- ♣ **LARGE BLACK:** England - Distinctive all black colouring - Lop ears and a long deep body - excellent mothering ability
- ♣ **MEISHAN:** China - Wrinkled face and skin - **One of the most prolific breeds of pig in the world**.
- ♣ **PIETRAIN:** Belgium - Meat Type - Gray Spots - Erect Ears - Heavy Muscling.

NATIVE / INDIGENOUS SWINE BREEDS

No.	Name	Origin/Breeding tract	Characteristic features
1.	GHOONGROO	West Bengal	Pork and manure - Black - Bulldog face - Upwardly curved snout - Large heart shaped ears
2.	NIANG MEGHA	Meghalaya	Pork & bristle - erect bristles on dorsal midline & small erect ears
3.	AGONDA GOAN	Goa	Black - short snout and rough bristles – used for sausage making
4.	TENYI VO	Nagaland	Potbellied pigs (Pendulous belly) - White stocking, white marking on the forehead & ventral body - Small erect ears
5.	NICOBARI	Andaman & Nicobar	Marked bristle crest (mane) on the back extending from mid head/shoulder to base of the tail - fast runner
6.	DOOM	Assam	Black - Short concave snout - long bristles extending up to thoraco-lumbar area
7.	ZOVAWK	Mizoram	Black - white spot on forehead, belly and white boots - Erect ear
8.	GHURRAH	Uttar Pradesh	Black - short leaf shaped vertically erected ears
9.	MALI	Tripura	Black - pot belly - Short erect ears perpendicular to body

10.	PURNEA	Bihar and Jharkhand	Round face; short conical and erect ears - thick line of bristle is present on topline from neck to shoulders
Others	GHORI - North-Eastern region		ANKAMALI - Kerala, Karnataka, Tamilnadu, Maharashtra states

HORSE: *Equus caballus*

Indian breeds of horses:

No.	Breed	Location	Purpose	Characteristics features
1	Kathiawari	Gujarat	Pace & Speed	<i>Rewal chal or single foot gait, Dorsal stripping of brown colour along spine</i>
2	Marwari	Rajasthan	Pace & Speed	<i>Longer & taller than Kathiawari horses</i>
3	Bhutia	Himalayan Ranges	Hill purpose	Adapt to changing environ. conditions
4	Manipuri	Manipur	Speed, Polo & sports	Ears are alert and <i>Almond shaped</i>
5	Spiti	Himachal Pradesh	Pace & Pack animals	Very comfortable fifth gait
6	Zanskari	Jammu & Kashmir	Hill purpose	Adapt better to higher altitudes & - 4°C
7	Kachchhi-Sindhi	Gujarat & Rajasthan	Desert Horse	Roman nose & ' <i>Rewal chal</i> ' gait.

FAO registered breeds: **Deccani** / Bhimtadi (Maharashtra), **Sikang** (Tibet and Himachal Pradesh), **Chummarti** (very similar to Spiti horse - Tibet and Himachal Pradesh).

EXOTIC BREEDS OF EQUINES:

- ✚ **Thoroughbreds:** Developed in England - A horse breed best known for its use in horse racing.
- ✚ **Arabian** - Originated on the Arabian Peninsula. Distinctive head shape - *Dished face and high tail carriage*.
- ✚ **Akhal-Teke** – Turkey - Shiny coat - "*Golden Horses*" - One of the oldest existing horse breeds.
- ✚ **Andalusian** - Pure Spanish Horse - Long, thick manes and tails.
- ✚ **Appaloosa** - American horse breed - Best known for its *colourful spotted coat pattern*.

Pony: Shorter than 14.2 hands in Height (58 inches, 147 cm).

Pony breeds: Welsh or welsh mountain pony, **Connemara** (*largest of pony breeds*), Miniature horse, The Highland Pony, Dartmoor ponies, The Exmoor, The Fell pony.

Breeds of DONKEY: *Equus asinus*

1. **HALARI** – Gujarat
2. **KACHCHHI** – Gujarat
3. **SPITI** – Himachal Pradesh

Breeds of CAMEL: *Camelus dromedarius* (One humped) & *C. bactrianus* (Two humped)

No.	Breed	Origin	Characters
1.	Bikaneri	Rajasthan	Reddish brown coat colour, Symmetrical body, slightly dome shaped head and a characteristic well marked depression above the eyes. Black hair on eyes, ears and throat. Such animals are locally known as "Jheepas" and have a greater demand in the market.
2.	Jaisalmeri	Rajasthan	for riding and race, light brown colour, lightly built, and comparatively lean and thin in appearance. Short hairs on the body. No hair on eyebrows, eyelids and ears.

3.	Jalori	Rajasthan	mixture of Marwari and Jaisalmeri. Comparatively smaller than Marwari. Good quick draught animals and transport animals.
4.	Kutchi	Gujrat	adapted to the harsh climate, and salty and marshy land of this region
5.	Malvi	Madhya Pradesh	very light or off- white colour. small body size and is probably the <i>smallest of all India breeds</i> .
6.	Marwari	Rajasthan	Clearly dark brown. Animals are of short stature and light in weight.
7.	Mewari	Rajasthan	developed to suit the hot climate of hilly areas infested with honeybees. stouter and a little shorter than Bikaneri. milch and baggage type breed
8.	Mewati	Rajasthan & Haryana	hard footed and slightly shorter in stature than the Bikaneri. Used for Riding, Baggage, Draught.
9.	Kharai	Gujarat	used in draught purpose, transportation, Border Security, Police services, tourism. <i>Excellent Swimming capacity in sea water</i> . Well adapted to both dry land as well as costal ecosystems in Kachchh

MITHUN: *Bos frontalis*: Arunachal Pradesh, Manipur, Mizoram, Nagaland

GAUR - *Bos gaurus*

YAK - *Bos grunniens* – **Arunachali** breed.

POULTRY BREEDS

Jungle fowls are the ancestors of the present-day poultry breeds. The four species are as follows:

1. *Gallus gallus* - Red Jungle Fowl
2. *Gallus lafayetti* - Ceylon Jungle Fowl
3. *Gallus sonneratii* - Grey Jungle Fowl
4. *Gallus varius* – Javan/Green Jungle Fowl

Gallus domesticus (domesticated fowl):

Breed: A breed refers to a group of domestic fowls with a common ancestry, and having similarity in shape, conformation, growth, temperament, shell colour of egg and breeds true to type (or) An established group of birds within a class possessing a distinctive common shape, size and conformation which are true to the type. Eg: Leghorn, Rhode Island red, Australorp, Aseel. Etc.

Class: It is a group of breeds which have been developed in certain regions or geographical areas. Eg: American, English, Mediterranean, Asiatic etc.

Variety: Varieties represent a sub-division of a breed, distinguished either by plumage colour, feather patterns or comb type Eg: Comb type – Single / rose comb, brown leghorn, barred / white / buffed plymouth rock etc; Feather patterns – pencilled, laced, barred, striped, spangled, stippled.

Strain: Within a variety, another sub-group may be developed by a breeder with a specific desired characteristic is called “Strain”

Ex: Layer – Babcock 300, Hyline-WS 36, Bovans. Broiler – Ross, Vencobb, Hybro.

Classification of CHICKEN BREEDS:

Based on Origin - I:

Character	Indigenous/Indian breeds	Exotic breeds
Growth	Slow	Rapid
Feathers on legs	Present	Absent
Eggs	Brown shelled	White / brown
Nature	Active and clear	Less active
Broodiness & Mothering instinct	High	Low
Egg production	Poor	Good

Based on Origin - II:

1. **Asiatic** - Brahma, Langshan, Cochin
2. **American** - Plymouth Rock, Rhode Island Red, Wyandotte
3. **Mediterranean** - Leghorn, Minorca, Ancona
4. **English** - Orpington, Sussex, Cornish
5. **Continental** - Houdans, Hamburg, Polish, Campines
6. **Oriental** - Malays, Yokohama, Sumatra, Cubalayas
7. **French**, South American (or) Latin American - Araucana
8. **African**: Negro, Jago
9. **Miscellaneous** - Bantams

Based on UTILITY (Type):

1. **Egg-type** - White Leghorn, Minorca, Ancona.
2. **Meat-type** - Cornish, Plymouth Rock, Brahma.
3. **Dual purpose** - RIR, New Hampshire, Australorp,
4. **Game type** - Aseel
5. **Fancy or Exhibition type** - Silky, Frizzled, Bantam
6. **Desi type** - Aseel, Kadaknath, Naked neck, Busra

Based on COMMERCIAL VALUE:

- Common **EGG-TYPE** chicken (strains of Single comb White Leghorn) : Babcock, Bovans, BV-300, Dekalb, ISA, Euribrid, HH-260, Hyline, Keystone, Lohmann and H & N Nick chick.
- Common **MEAT-TYPE** hybrid chicken (hybrids with White and / or Red Cornish as male line White Plymouth Rock and/or New Hampshire / Australorp as the female line) : Anak-2000, Arbor Acres, Avian-34, Cobb, Hub chicks, Hubbard, Hybro, Ross, Steggles, Lohmann, Pilch, Starbro, Marshall, Peterson, Samrat-2000 and Tegel

Characteristics of different classes of Poultry:

S.No.	Characteristic	American	English	Mediterranean	Asiatic
1.	Body size	Medium	Medium	Light	Heavy *
2.	Purpose	Dual	Dual	Egg	Meat
3.	Shell color	Brown	Brown	White	Brown
4.	Ear lobe color	Red	Red	White	Red
5.	Skin color	Yellow	White	Yellow	Yellow
6.	Feathers on shank	No	No	No	Yes*
7.	Breeds	RIR New Hampshire Plymouth Rock Wyandotte,RIW	<i>Cornish</i> , Sussex Australorp Orpington Dorking, Redcap	<i>Leghorn</i> , Minorca, Ancona Andalusian, Catalana Sicilian Buttercup	Brahma Cochin Langshan

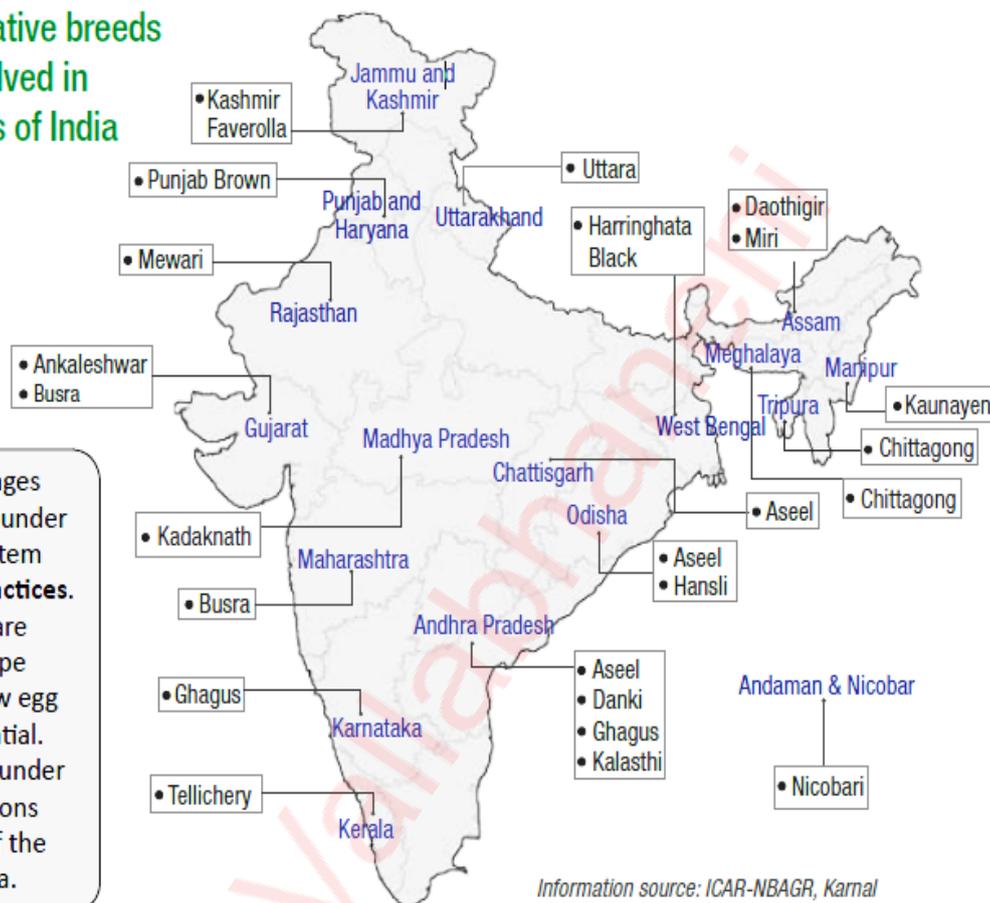
Points to remember:

- White Leg Horn – **Best/Popular layer breed - World's number one egg producer.**
- Cornish – **Best broiler breed**
- Minorca - **Largest and heaviest** breed in Mediterranean class
- Broiler breeding: **White and / or Red Cornish** as male line & **White Plymouth Rock and/or New Hampshire** / Australorp as the female line
- Feathered shanks - Characteristic feature of **Asiatic** class
- Rhode Island Red (RIR)- Popular dual-purpose breed, are cross of Red Malay Game, Leghorn and Asiatic native stock
- New Hampshire developed from RIR.
- “Austro-white” is a hybrid cross between Australorp male and White Leghorn female. It is an excellent layer.
- Brahma are from Brahmaputra region in India where they were known as "**Gray Chittagongs**".

INDIAN/ INDIGENOUS/NATIVE CHICKEN BREEDS: 19



Indigenous/native breeds that have evolved in different parts of India



In this system, flock size ranges from five to 50 birds raised under a traditional scavenging system devoid of management practices. Backyard chickens in India are generally the native/desi type (19 poultry breeds) with low egg and meat production potential. Desi chicken breeds grown under free range backyard conditions contribute about 10-12% of the total egg production in India.

Salient features:

- ❖ Aseel – tall, heavy leg bones, **cock fighting**, pea comb.
- ❖ Chittagong (malay)- used in the breed development of **RIR & Cornish**
- ❖ Dumasil – **less broody** among native breeds
- ❖ Kadaknath – **jet black in colour (melanin)**, intense black colouration of internal organs, **black coloured meat**
- ❖ Nicobari – **highest egg producer** among native breeds (140-150 annual production), short legged chicken
- ❖ Kashmiri favorella – **feathered cap** on head
- ❖ Uttara – **feathered shank**

BREEDS OF DUCK: *Anas platyrhynchos*

1. **Meat type:** Aylesbury (England), Muscovy (South America), **Pekin*** (China), Rouen (France)
2. **Egg type:** **Khaki Campbell*** (England), Indian runner (Indonesia)
3. **Ornamental type:** Call (Netherlands), Crested white (East Indies & Europe), Black east India (USA)

Indian Duck breeds:

1. PATI – Assam
2. MAITHILI - Bihar

Breeds of GEESE: *Anser anser* - KASHMIR ANZ - Jammu & Kashmir

Guinea Fowl: *Numida meleagris* - 3 important varieties: Lavender, Pearl and White

Quail: *Coturnix coturnix* (Common quail), *Coturnix japonica* (Japanese quail)

Turkey: *Meleagris gallopavo*: 8 Varieties - Broad-breasted Bronze, White Holland, Beltsville Small White, Bourbon Red, Narragansett, Slate, Black, and Royal Palm.

DIPLOID CHROMOSOME NUMBERS OF LIVESTOCK & POULTRY

Sl. No.	Common Name	Genus and Species	2n Chromosome Number
1	Cat	<i>Felis catus</i>	38
2	Pig	<i>Sus scrofa</i>	38
3	Rabbit	<i>Oryctolagus cuniculus</i>	44
4	Human	<i>Homo sapiens</i>	46
5	Swamp buffalo	<i>Bubalus bubalis</i> (swamp type)	48
6	River buffalo	<i>Bubalus bubalis</i> (riverine type)	50
7	African or Cape buffalo	<i>Syncerus caffer</i>	52
8	Sheep	<i>Ovis aries</i>	54
9	Goat	<i>Capra hircus</i>	60
10	Donkey	<i>Equus asinus</i>	62
11	Horse	<i>Equus caballus</i>	64
12	Cattle	<i>Bos taurus, Bos indicus</i>	60
13	Camel	<i>Camelus bactrianus & C. dromedaries</i>	74
14	Dog	<i>Canis familiaris</i>	78
15	Guinea fowl	<i>Numida meleagris</i>	74
16	Chicken	<i>Gallus domesticus</i>	78
17	Japanese quail	<i>Coturnix japonica</i>	78
18	Domestic duck	<i>Anas platyrhyncha</i>	80
19	Muscovy duck	<i>Cairina moschata</i>	80
20	Goose	<i>Anser anser</i>	80
21	Turkey	<i>Meleagris gallopavo</i>	80
22	Ostrich	<i>Struthio camelus</i>	80
23	Emu	<i>Dromaius novaehollandiae</i>	80
24	Pigeon	<i>Columbia livia</i>	80

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<https://t.me/joinchat/Gmb76hZrKdbwsTIMqadZsw>)

VETYPEDIA (INSTAGRAM) - <https://instagram.com/vetypedia?igshid=u4c61r7i10xo>

ALL THE VERY BEST TO THE PEOPLE READING THIS NOTES.....