

GOVERNMENT OF INDIA
MINISTRY OF FISHERIES, ANIMAL HUSBANDRY AND DAIRYING
DEPARTMENT OF ANIMAL HUSBANDRY AND DAIRYING
LOKSABHA
UNSTARRED QUESTION No. 3724
TO BE ANSWERED ON 21ST DECEMBER, 2021

INDIGENOUS CATTLE BREED

3724. SHRI PRATAPRAO JADHAV:

Will the Minister of FISHERIES, ANIMAL HUSBANDRY AND DAIRYING
मत्स्यपालन, पशुपालन और डेयरी मंत्री
be pleased to state:

- (a) whether the Government is implementing any scheme to increase the stock of indigenous cattle breed in the country;
- (b) if so, the details thereof and the details of Indian breed cows, State-wise;
- (c) whether there is any difference between the quality of milk of foreign breed cows and if so, the details thereof;
- (d) whether it has been found in the research that the A2 quality milk obtained from cows of indigenous breeds is more beneficial for human health and if so, the details thereof?
- (e) whether there is a decline in the total number of indigenous cattle as per the latest livestock census; and
- (f) if so, the details of steps the Government proposes to take to conserve and encourage indigenous breed cows, State-wise?

ANSWER

**THE MINISTER OF FISHERIES, ANIMAL HUSBANDRY AND DAIRYING
(SHRI PARSHOTTAM RUPALA)**

- (a) Government of India has been implementing RashtriyaGokul Mission for development and conservation of indigenous breeds, genetic upgradation of bovine population and enhancement of milk production and productivity of bovines.
- (b) The details of the indigenous breeds and their breeding tract is given at Annexure I

(c) As per Indian Council of Agricultural Research (ICAR) some of the knowledge available on composition of milk of Indian and foreign (exotic) cattle breeds indicated the differences in levels and concentrations of various constituents of the milk between the two are as under:

(i) Fat and total solid percentage content for Indian dairy cattle has been reported to be higher than the exotic cattle.

(ii) Sahiwal breed of indigenous cattle has shown significantly higher concentration of unsaturated fat contents (UFA) compared to HF.

(iii) Kashmiri cattle milk proteome was characterized by increased concentrations of immune-related proteins, neonatal developmental protein while the Jersey milk proteome presented higher concentrations of enzyme modulators.

(iii) Lactoferrin contents in native cattle Malnad Gidda was significantly higher (225.20 g/ml) as compared to exotic cattle (137.8 g/ml).

(v) The frequency of A2A2 genotype is higher in indigenous cattle as compared to exotic cattle.

(vi) In addition to above many other traditionally acclaimed properties and compositional differences, which opine or state about possibilities of native cows' milk to be better than exotic cows' milk, are being investigated by recent scientific techniques like proteomics, fatty acid profiling, etc, as well as scientific trials to accumulate science-based evidences.

(d) As per ICAR no study has been undertaken on benefits of A2 milk in human health. However, under National Fund project on "Delineating Beta Casein Variants in Indian cows and potential health implications of A1A2 milk", ICAR National Bureau of Animal Genetic Resources (NBAGR), Karnal and ICAR – National Dairy Research Institute (NDRI), Karnal have undertaken a study on effect of A1A1, A1A2 and A2A2 milk feeding in mice model. The histological examination of some selected tissues was carried out and mice group fed with A2A2 milk powder based diet did not revealed any major abnormality compared to mice groups fed with A1A1 and A1A2 based milk diets.

(e) As per the 20th livestock census the total population of indigenous (indigenous breed and non descript cattle) cattle has declined by 6% between 19th Livestock Census and 20th Livestock Census. However, total indigenous female (indigenous breed and non descript cattle) has increase by 10% between 19th Livestock Census and 20th Livestock Census.

(f) Following measures have been undertaken by Government of India for development and conservation of indigenous bovine breeds including indigenous breed of cattle.

(i) Implementation of Nationwide Artificial Insemination Programme using semen of high merit bulls including semen of high genetic merit bulls of indigenous breeds. Under the component till date 2.37 crore animals have been covered, 2.87 crore artificial inseminations have been performed and 1.5 crore farmers benefited.

(ii) Implementation of progeny testing and pedigree selection for production of high genetic merit bulls including bulls of indigenous breeds like Gir, Sahiwal, Tharparkar, Kankrej, Hariana, Rathi breeds of cattle and Murrah, Mehsana, Jaffarabadi, Pandharpuri, Nili Ravi breeds of buffalo. So far 2332 high genetic merit bulls of indigenous breeds have been produced and made available to semen stations for semen production.

(iii) Implementation of IVF for faster genetic upgradation of bovine population including indigenous breeds of cattle and buffaloes. Under the component projects have been sanctioned for establishment of 30 IVF laboratories out of this 17 laboratories have been made operational and work is in progress at 13 IVF labs. As on date 12438 viable embryos of indigenous breeds have been produced, 5864 embryos transferred, 951 calves born and 5976 embryos are under storage.

(iv) For implementation of genomic selection DNA chip has been developed for identification of high genetic merit bulls of indigenous bovine breeds at young age against 6- 7 years taken in traditional method to prove genetic merit of the bulls National Dairy Development Board has developed Indus chip and buff chip for genomic selection of cattle and buffaloes including animals of indigenous breeds. ICAR -National Bureau of Animal Genetic Resources has developed Low Density DNA chip exclusively for genomic selection of animals of indigenous breeds.

(v) Sex sorted semen production for indigenous breeds of cattle along with other bovine breeds has been initiated in the country. Sex sorted semen is important for production of female calves with 90% accuracy. As on date around 10 lakh sex sorted semen doses have been produced at Government semen stations and 18 lakh semen doses produced at semen stations with Mehsana Milk Union, BAIF and ABS Chitale.

(vi) Funds have been released to the States for establishment of 16 Gokul Grams for development and conservation of indigenous breeds of cattle and buffaloes in scientific and holistic manner out of which 14 Gokul Grams have been made functional and work is in progress at remaining 2 Gokul Grams. Two National Kamdhenu Breeding Centres have been established as repository of germplasm of indigenous breeds.

Details of the major steps undertaken under Rashtriya Gokul Mission for development and conservation of indigenous breeds State wise is given at Annexure-II.

INDIGENOUS BREEDS OF CATTLE

S. No	Breed	State
1	Gir	Gujarat
2	Rathi	Rajasthan
3	Red Sindhi	Uttarakhand, Tamil Nadu, Odisha; Bihar (originated in Pakistan)
4	Sahiwal	Punjab
5	Deoni	Maharashtra
6	Gaolao	Maharashtra
7	Haryana	Haryana
8	Kankrej	Gujarat
9	Krishna Valley	Karnataka
10	Mewati	Rajasthan, Uttar Pradesh
11	Ongole	Andhra Pradesh
12	Tharparkar	Rajasthan
13	Amrit Mahal	Karnataka
14	Bargur	Tamil Nadu
15	Bachaur	Bihar
16	Binjharपुरi	Odisha
17	Dangi	Maharashtra
18	Ghumsuri	Odisha
19	Hallikar	Karnataka
20	Kangayam	Tamil Nadu
21	Kenkatha	Madhya Pradesh
22	Kherigarh	Uttar Pradesh
23	Kheriar	Odisha
24	Khillari	Maharashtra
25	Malvi	Madhya Pradesh, Rajasthan
26	Nagori	Rajasthan
27	Nimari	Madhya Pradesh
28	Motu	Odisha
29	Ponwar	Uttar Pradesh
30	Red Kandhari	Maharashtra
31	Siri	West Bengal and Sikkim
32	Umblachery	Tamil Nadu
33	Vechur	Kerala
34	Punganur	Andhra Pradesh
35	Malnad Gidda	Karnataka
36	Kosali	Chhattisgarh
37	Pulikulam	Tamil Nadu
38	Gangatiri	Uttar Pradesh
39	Belahi	Haryana
40.	Badri	Uttarakhand
41	Konkan Kapila	Maharashtra
42	Lakhimi	Assam
43	Ladakhi	Jammu & Kashmir
44.	Poda Thurupu	Telangana
45	Nari	Rajasthan
46.	Dagri	Gujarat
47.	Thutho	Nagaland
48.	Shweta Kapila	Goa
49.	Himachali Pahari	Himachal Pradesh
50.	Purnea	Bihar

Annexure-II

Details of the Steps undertaken under Rashtriya Gokul Mission for Development and conservation of indigenous breeds State wise

SN	Name of State	Bull Mother Farms (strengthening)	National Kamdhenu Breeding Centre	Pedigree Selection Programme	Progeny Testing	IVF Labs	NAIP-III No of District participating
1	Andhra Pradesh	1	1	-	1	2	9
2	Arunachal Pradesh	-	-	-		-	14
3	Assam	1		-		-	33
4	Bihar	-		-		2	38
5	Chhattisgarh	1		-		1	27
6	Goa	-		-		-	2
7	Gujarat	5		2	6	2	21
8	Haryana	1		1	1	1	5
9	Himachal Pradesh	-		-		1	12
10	Jammu & Kashmir	-		-		-	20
11	Laddakh						2
12	Jharkhand	3		-		-	24
13	Karnataka	3		-		1	17
14	Kerala	4		-	1	1	-
15	Madhya Pradesh	-	1	-		2	51
16	Maharashtra	-		1		3	33
17	Manipur	-		-		-	9
18	Meghalaya	-		-		-	11
19	Mizoram	-		-		-	8
20	Nagaland	-		-		-	11
21	Odisha	-		-		2	30
22	Punjab	1		1	2	2	22
23	Rajasthan	-		2	1	1	33
24	Sikkim	-		-		-	4
25	Tamil Nadu	2		-	1	3	13
26	Telangana	-		-		1	32
27	Tripura	15		-		-	8
28	Uttar Pradesh	-		-		4	75
29	Uttarakhand	2		-		1	13
30	West Bengal	2		-		1	20
	Total	41	2	7	13	31	597

Abbreviations: IVF= In vitro Embryo Production Technology; NAIP Nationwide AI programme