

## DISPERSAL AND PERFORMANCE OF INDIGENOUS CATTLE BREEDS IN DIFFERENT AGROCLIMATIC ZONES OF INDIA

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**ABSTRACT :** The secondary data made available in the public domain by Indian Council of Agriculture Research, National Bureau of Animal Genetic Resources, Information System on Animal Genetic Resources of India was used in the present study. Data on dispersal, production, reproduction and conformation of various indigenous cattle breeds had been collected. Data was classified as per 15 agroclimatic zones and a qualitative thematic map on dispersal of various recognized indigenous cattle breeds had been developed. Parametric data was subjected to descriptive and inferential statistics. It had been observed that agro climatic zones 3, 7 and 15 were devoid of any recognized indigenous cattle breeds. All other zones were having 3 or more breeds. The milk yield per lactation result showed significantly higher milk yield by breeds residing in zone 6, 13 and 14 compared to other zones. The states covered under these zones were Haryana, Punjab, Rajasthan and Gujarat. Breeds with significantly heavier adult body weight were observed in agro climatic zones 5, 6, 9 and 14. Significantly lower birth weight was observed in breeds of zone 12. Non significant differences were observed in reproductive traits of indigenous cattle breeds among various agro climatic zones of India. Highest average body length and heights were observed in the breeds of agro climatic zones zones 6 and 14. It can be impressed upon that Agro climatic zones had played an important factor in inculcating variation observed in production and conformation traits among various indigenous cattle breeds of India.

**Key words :** Agroclimatic zones, conformation, dispersal, indigenous cattle, India, production, reproduction.

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### INTRODUCTION

Data on various Indian cattle breeds had grown remarkably over the years. Nine cow breeds were described long ago (Tweed, 1900). The list had grown to 50 with the recent addition of 7 cattle breeds through gazette notification of Government of India (GOI, 2020). ICAR- National Bureau of Animal Genetic Resources (ICAR-NBAGR) is a premier institute dedicated to work with its mandate of identification, evaluation, characterization, conservation and utilization of livestock and poultry genetic resources of the country. The Animal Genetic Resources of India Information System (AGRI-IS) portal of ICAR-NBAGR had described 50 recognized indigenous cattle breeds in India arranged alphabetically as Amritmahal, Bachaur, Badri, Bargur, Belahi,

Binjharपुरi, Dagri, Dangi, Deoni, Gangatiri, Gaolao, Ghumusari, Gir, Hallikar, Haryana, Kangayam, Kherigarh, Kankrej, Kenkatha, Khariar, Konkan Kapila, Kosali, Krishna Valley, Ladakhi, Lakhimi, Malnad Gidda, Malvi, Mewati, Motu, Nagori, Nari, Nimari, Ongole, Poda Thurpu, Ponwar, Pulikulam, Punganur, Purnea, Rathi, Red Kandhari, Red Sindhi, Sahiwal, Shweta Kapila, Siri, Tharparkar, Thunto, Umblachery and Vechur. All of these cattle breeds are well known for their ability to adapt to area specific harsh climates, low nutrition and resistance to diseases. In India, the mainland had primarily been divided into 15 agroclimatic zones (Khanna, 1989). These agroclimatic zones might have an impact on dispersal and production potential of Indian cattle breeds. Cattle with a population of 193.46 million heads play a crucial role in

be attributed to higher body length and height exhibited by Nagori, Rathi, Tharparkar breeds residing in this zone. The average body height of Nagori, Rathi and Tharparkar were 124, 114.92 and 130 cm, respectively (ICAR-NBAGR, 2022). Similar average body height had earlier been reported in Tharparkar (Choudhary *et al*, 2018). The average body length of Nagori, Rathi and Tharparkar were 138, 131.33 and 132 cm, respectively (ICAR-NBAGR, 2022). The low body length had been reported in Tharparkar cattle (Choudhary *et al*, 2018).

### CONCLUSION

Dispersal of breeds had shown a pattern whereby significantly higher milk producing breeds of India reside in agroclimatic zones 6, 13 and 14 constituted by Haryana, Punjab, Rajasthan and Gujarat states. Reproductive performance was at par among various agro climatic zones. Agro climatic zone 12 nurtures breeds with significantly lowest birth weight. Conformation traits also do vary significantly among various agro climatic zones. Thus, it can be concluded that agro climatic zones had played a vital role in variation observed in production and conformation traits among various indigenous cattle breeds of India.

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