



Bio Vet Innovator Magazine

(Fueling The Future of Science...)

Volume 3 (Issue 3) MARCH 2026



World Tuberculosis Day - 24th March

Popular Article

The Doom Pig of Assam

Kankan Baro¹, Naba Jyoti Deka², Yogashmita Boro^{3*}, Rahul Sheoran¹, Animesh Shil⁴, Wilson L Varay¹

¹Division of Animal Genetics,

ICAR-Indian Veterinary Research Institute, Bareilly-243122, UP

²PhD, Department of Veterinary Biochemistry,

College of Veterinary Science, Khanapara.

³Division of Livestock Products Technology,

ICAR- Indian Veterinary Research Institute, Bareilly-243122, UP

⁴Division of Veterinary Parasitology,

ICAR- Indian Veterinary Research Institute, Bareilly-243122, UP

*Corresponding Author: yogashmita@gmail.com

DOI: <https://doi.org/10.5281/zenodo.19147701>

Received: March 17, 2026

Published: March 21, 2026

© All rights are reserved by **Yogashmita Boro**

Abstract:

Doom is an indigenous pig breed of Assam, found mainly in the Dhubri, Bongaigaon and Kokrajhar districts. Doom pig is mainly reared in migratory scavenging system, requiring minimal input. It can also be seen reared in backyard production system. Farmers provide them with feeds that are readily available locally, which includes cooked vegetables like potatoes and cabbage, kitchen waste, and leftover rice beer. The estimated population size of Doom pig was found to be around 3,000 in numbers. Doom pigs are able to produce exceptionally high-quality bristles. This pig has also been found to be very close to Indian wild pig, which might be the reason for their excellent disease resistance, adaptability to changing environmental circumstances etc.

Keywords: Indigenous, Scavenging, Backyard, North-East, Disease-Resistant.

Introduction:

The Pig /Swine/Hog (*Sus domesticus*) is an omnivorous, domesticated, even-toed, hooped mammal. It is a subspecies of *Sus scrofa* (Wild boar or Eurasian boar). Domestication of pigs began during the Neolithic era and it has been domesticated for about 11,000 years, mostly for the production of meat (Larson *et al.*, 2007; Vigne *et al.*, 2009). Swine is one of the most significant livestock species in India, especially for economically poorer groups (Rahman *et al.*, 2008). Swine husbandry (backyard and intensive systems) is fundamental to the livelihood of native population of North Eastern part of India. Pigs being efficient feed converters and also by contributing manure for agriculture, gives rural households a stable source of income and improves tribal communities' socioeconomic standing (Das and Naskar, 2007). According to the 20th livestock census (2019), the total number of pig population in India was 9.06 million, accounting for 1.69 per cent of the total livestock population of the country (20th livestock census,

2019). It declined by 12.03% over the previous Census. While, Pig resource in the North Eastern Region increased by 7.29 percent as compared to previous census, with a total pig population of 4.24 million. Currently North East holds 49% of the total pig population of the country. Assam holds the highest number of pig population among all the states in the country, with a total pig population of 2.1 million, followed by Jharkhand (20th livestock census, 2019).

Doom Pig:

India currently recognizes total 15 pig breeds in India. Among them, Doom pig is an indigenous pig breed of Assam, registered by ICAR-NBAGR in 2016 under registration number INDIA_PIG_0200_DOOM_09006. The community responsible for establishing and maintaining this breed belongs to a designated caste locally known as 'Doom'. The name of this pig breed is thought to have come from the community's name. The primary locations of the Doom pig breeding tract are Agomani, Gauripur, Golokganj and Bilasipara subdivisions in the Dhubri district, as well as a few parts of the Bongaigaon and Kokrajhar districts of Assam. The breed is also raised in the districts of Goalpara and Kamrup. The region receives 180 cm of precipitation yearly (from May to September), with an average of 77.3 wet days per year. The temperature ranges from 10 to 25°C in the winter and from 22 to 38°C in the summer (Banik *et al.*, 2022).

Morphology:

Doom is a large breed of pig that has a vibrant, energetic, untamed appearance. The backline has long, thick bristles and the color is primarily black. The Doom pig has a short skull, small, powerful forelimbs and small, erect vertical ears. Doom pig has a straight topline that reaches the thoraco-lumbar region with characteristic lengthy bristles. In the scavenging mode of rearing, the rough, somewhat concave nose aids the animals in digging the ground for food. In the migratory technique of rearing, the animal's short, compact legs enable it to travel great distances. Most of the time, the tail is tiny, straight, and reaches the hock joint. At the midventral line, females have four to five pairs of teats. In comparison, females are larger than males (Banik *et al.*, 2016).

Rearing and Management System:

The productive performance of pigs is a major factor in a pig producer's profitability, and the management system and rearing style are crucial. Doom pigs are typically raised in a migratory scavenging system with a flock size of 90–150. As the people of the Doom community are economically backward, they used to go across the breeding tract in search of food and a living with the entire flock. Their primary source of income is raising these pigs in a group using a scavenging strategy. These animals are not given any special housing. Animals seek cover under trees when they go from one location to another (Banik *et al.*, 2022). The backyard production system is primarily used by marginal and small farmers. In this system, farmers raise two to seven pigs in their backyards using a small house made of locally available materials

like bamboo and wood, and they give them locally available feeds like rice beer waste, kitchen trash, cooked vegetables like potatoes and cabbage, etc. In this system, piglets, pregnant animals, and sick animals are given special nutritional care (Rahman *et al.*, 2020). Doom pigs raised in backyard production systems exhibit improved growth performance and carcass yield. On the other hand, migratory scavenging pigs produce higher-quality pork and are more efficient at reproducing. According to the study by Rahman *et al.* (2020), backyard production systems are more suited for fattener pig production, while migratory scavenging systems are better for breeding pig production.

Population Structure:

The population has remained in mutation-drift equilibrium and has not experienced any recent or abrupt decline in the effective population size. This population's high degree of variability is an indicator of important genetic diversity. To preserve the current genetic diversity and its sustainable use, the necessary approach must be implemented (Zaman *et al.*, 2014). The estimated population of Doom pig was found to be around 3,000 (Banik *et al.*, 2016). The entire mitochondrial genome of the Indian wild pig (*Sus scrofa cristatus*) was characterized and mitochondrial DNA sequences unique to this species were found. A total of 36 polymorphic locations were found in the Indian Wild Pig (IWB), of which 29 were exclusive to the IWB and seven shared by the Doom and HDK75 pig breeds. There was no common polymorphism sites found in the dominant domestic pig groups. The mitochondrial genome's phylogenetic analysis demonstrated the clear distinction between the IWB and IDP (Domestic Indian Pigs). According to the genetic distance evaluation results, the Doom pig breed was the most similar to the IWB (Das *et al.*, 2024).

Production and Economic Importance:

Consumer demand for this breed's meat and meat by-products is high due to its reputation for having good meat quality, taste and palatability. Compared to other pig breeds, they are more expensive (Daimari *et al.*, 2022). The Doom pig has a dressing percentage of 62%. Also, Doom pigs are capable of producing bristles of exceptional grade. The bristles of both male and female animals are excellent and quite dense. The color of bristles is often black. The amount of bristle produced by an adult male and female is 130.20 and 95.10 g respectively. The bristles range in length from 8 to 16 cm. For both male and female animals, the average bristle length is 13.74 cm and 10.01 cm respectively. The bristle's diameter ranges from 0.33 to 0.60 mm, with an average of 0.46 mm. However, bristles are rarely collected or used by farmers in their fields (Rahman *et al.*, 2019). Doom pigs raised in a backyard system showed significantly higher carcass weight, dressing percentage and back fat thickness than those raised on a migratory scavenging system. However, compared to the backyard system, the migratory scavenging system had a far higher lean meat composition. Pigs raised in backyard systems may have a greater dressing percentage, which could explain the higher body fat content and back fat thickness. The migratory scavenging pigs' higher lean content and less back fat may be the result of their constant movement, which allowed them

to exercise on a regular basis (Rahman *et al.*, 2020).

Disease Resistance and Adaptability:

All pig breeds in Northeast India have been impacted by African swine fever (ASF) since 2020, with the exception of Doom pigs, a rare indigenous species from Assam that is the closest relative of Indian wild pigs. At various stages of infection, the differential expression patterns of these genes were evaluated between healthy controls and surviving Doom breed pigs infected with ASFV. Doom pigs are perfect for researching tolerance to ASFV infection because of their genetic similarity to wild pigs and their capacity to resist common pig diseases (Das *et al.*, 2024). These animals are well-liked by farmers due to their excellent disease resistance, adaptability to changing environmental circumstances, and ability to flourish in low-input management settings. The indigenous pigs will continue to be the source of meat and secondary income for the resource-poor small farmers in rural areas, while having limited commercial value due to their slow development rate. Their low output will be made up for by their adaptability and suitability to a tough manufacturing environment with poor input management.

Conclusion:

Pig farming is an important part of the lifestyle of native people in India's North Eastern region. People in Assam have been raising Doom pigs for many years. Being able to survive with minimal input in a migratory scavenging system, as well as its ability to adapt to shifting environments and disease resistance, distinguishes it as rare germplasm for conservation. Proper conservation and breeding strategies for Doom pigs should be developed to prevent this breed from becoming diluted by crossbreeding programs.

References:

- Banik, S., Naskar, S., Zaman, G., Sarma, D. K., Tamuly, M. K., & Gandhi, R. S. (2016). Doom pig, an indigenous pig germplasm of Assam. *ICAR-National Research Centre on Pig, Rani, Guwahati, 781131*.
- Banik, S., Barman, K., Choudhary, H., Das, P. J., Thomas, R., Kumar, S., & Rajkhowa, S. (2022). Performance appraisal and conservation need of doom pig of Assam.
- Das, P. J., Kumar, S., Choudhury, M., Banik, S., Pegu, S. R., Kumar, S., ... & Gupta, V. K. (2024). Characterization of the complete mitochondrial genome and identification of signature sequence of Indian wild pig. *Gene, 897*, 148070.
- Das, P. J., Sonowal, J., Sengar, G. S., Pegu, S. R., Deb, R., Kumar, S., ... & Gupta, V. K. (2024). Characterization of an African swine fever virus outbreak in India and comparative analysis of immune genes in infected and surviving crossbreed vs. indigenous Doom pigs. *Archives of Virology, 169*(7), 145.
- Department of Animal Husbandry & Dairying, Ministry of Fisheries, Animal Husbandry & Dairying,

Government of India. *20th Livestock Census, 2019*

- Larson, G., Albarella, U., Dobney, K., Rowley-Conwy, P., Schibler, J., Tresset, A., ... & Cooper, A. (2007). Ancient DNA, pig domestication, and the spread of the Neolithic into Europe. *Proceedings of the National Academy of Sciences*, *104*(39), 15276-15281.
- Naskar, S., & Anubrata Das, A. D. (2007). Approach for improvement of pig production in North Eastern Hilly region of India.
- Panda, R., Pawankar, K. N., Laishram, M., & Debbarma, A. (2018). The relevance of pig breeds from North Eastern India towards pork production-A Review. *Int J Adv Agric Sci Tech*, *5*(7), 124-132.
- Rahman, M., Phookan, A., Zaman, G. U., Das, A., Akhtar, F., Hussain, J., & Tamuly, S. (2019). Study on various morphometric and bristle traits of Doom pigs of Assam under the existing management system. *International Journal of Livestock Research*, *9*(4), 138-145.
- Rahman, M., Phookan, A., Zaman, G., Ahmed, S. I., Deori, S., & Hoque, E. (2020). Performance of Doom pigs under different production systems in subtropical ecosystem of north east India. *Indian Journal of Animal Sciences*, *90*(2), 292-295.
- Vigne, J. D., Zazzo, A., Saliege, J. F., Poplin, F., Guilaine, J., & Simmons, A. (2009). Pre-Neolithic wild boar management and introduction to Cyprus more than 11,400 years ago. *Proceedings of the National Academy of Sciences*, *106*(38), 16135-16138.
- Zaman, G., Laskar, S., Ferdoci, A. M., Shekar, M. C., & Chetri, A. J. (2014). Molecular characterization of Doom pigs using microsatellite markers. *African Journal of Biotechnology*, *13*(30).