



Adoption of Scientific Pig Rearing Practices: A Study in Jorhat District of Assam

Trishnalee Saikia¹, Prabhat Baruah², Sanjoy Borthakur³, Bhoirab Gogoi⁴, Sammeeron Bhattacharjya⁵
and Manoranjan Neog⁶

Krishi Vigyan Kendra, Assam Agricultural University, Jorhat, 785013, (Assam), India

ABSTRACT

Pig farming is an integral component of rural livelihoods in Assam, contributing significantly to food security, income generation, and nutritional security. Assam accounts for 2.10 million pigs, the highest in India, and pork constitutes nearly 39% of total meat production in the state. Despite this importance, productivity remains low due to limited adoption of scientific practices. The present study was conducted in Jorhat district during April 2024–March 2025, covering 100 randomly selected pig farmers. The study revealed practices related to housing (use of proper flooring, ventilation, and sanitation) and healthcare (vaccination and disease testing) had relatively high adoption while low adoption had been recorded in respect of important practices like providing sufficient space per pig, both indoors and outdoors, with separate areas for feeding and resting, providing access to fresh, clean water at all times, preferably through nipple drinkers etc. Therefore, awareness on these critical management practices by the extension workers is of utmost importance at the present situation for the betterment of this piggery sector and improving the rural economy of Assam.

Keywords: Disease, Environment, Management, Pig, Vaccination, Water.

INTRODUCTION

The piggery sector in Assam is a significant contributor to the state's economy and plays a vital role in the livelihoods of rural communities, particularly tribal and marginalized groups. Assam leads India in pig population with 2.10 million pigs, contributing significantly to the nation's total pig population. The state also boasts the highest pork consumption in India, accounting for 38.50 percent of total meat consumption within Assam, according to the Chief Minister's Atmanirbhar Asom Abhijan. Pig meat accounts for 39% of the total meat production in Assam. The demand for pork is increasing due to population growth and awareness of its nutritional value, making pig farming a profitable venture. Pig farming, even at a small scale, significantly contributes to the livelihoods of many households (Seth *et al*, 2018; Jothika *et al*, 2022). While Assam is a major pork producer in Northeast India (Assam produces approximately 218,820 tonnes of pork annually), it still faces a 40% import gap due to limited processing and logistical challenges. The sector faces challenges like low productivity of indigenous breeds and reliance on imports to meet local demand, but it also presents substantial opportunities for growth and development.

A large portion of the pig population in Assam consists of low-productivity indigenous breeds. While showing potential for improved productivity, faces several challenges including disease susceptibility, limited access to quality feed, and inadequate knowledge among farmers about scientific pig farming practices. These factors contribute to lower overall productivity and profitability for farmers. By implementing various improved practices, pig farmers can optimize their operations, increase productivity, and improve their profitability. Improved piggery practices involve optimizing various aspects of pig farming to enhance productivity and profitability (Kumaravel and Senthilkumar, 2017; Borah *et al*, 2023). This includes proper housing with good ventilation and sanitation, a balanced diet, regular vaccination and deworming, and implementing biosecurity measures to prevent disease outbreaks. Effective management of boars, sows, and piglets, along with appropriate record-keeping, are also crucial for success. The present study was undertaken to assess the level of adoption of improved pig farming practices among farmers in Assam. Such an assessment is crucial for identifying existing constraints and potential opportunities within the sector. The findings are expected to assist policymakers and extension

Corresponding Author's Email - borthakursanjoy@gmail.com

1,2,3,4,5Krishi Vigyan Kendra, Assam Agricultural University, Jorhat, 785013, (Assam), India

6Directorate of Extension Education, Assam Agricultural University, Jorhat, 785013, (Assam), India

agencies in designing targeted interventions and strategies aimed at promoting sustainable piggery development in the state.

MATERIALS AND METHODS

The present study was conducted at Jorhat district of Assam during April, 2024 to March, 2025. A total of 100 (hundred) pig farmers were randomly selected from different villages of the district for the study. Data were collected through personal interviews using a pre-tested and structured interview schedule. For the present study, a comprehensive list of improved pig farming practices was compiled and systematically categorized into five broad categories, *viz.*, (i) housing and environment-related practices, (ii) feeding and nutrition-related practices, (iii) healthcare management, (iv) breeding and reproductive practices, and (v) advanced marketing practices. These categories were categorized to ensure systematic analysis of the technological interventions across the dimensions of pig production. The degree of adoption across the five categories was systematically assessed. For each, adoption was quantified using a three-point scale: regular adoption (score of 2), occasional adoption (score of 1), and non-adoption (score of 0). The cumulative score for each practice was derived by aggregating the responses from all selected respondents. To standardize the measurement of adoption behaviour, adoption index developed by Karthikeyan (1994) was used.

$$\text{Respondent's Adoption Index (AI)} = \frac{\text{Total Adoption Score (TAS)}}{\text{Total Possible Score (TPS)}} \times 100$$

Further, ranks were assigned based on the adoption index.

RESULTS AND DISCUSSION

The data on adoption of various improved management practices of piggery in various aspects were collected, tabulated and analysed for obtaining total adoption scores (TAS), mean score (MS) and adoption index (AI). Then ranks were also assigned to each item based on the adoption index within the management aspects. The results have been tabulated and presented as follows. Adoption of various advanced housing and environment practices is presented in Table 1.

Table 1 indicates that the practice of using hard, even, non-slippery, and well-sloped flooring to facilitate proper drainage and ease of cleaning was

ranked first as this practice is considered most critical for ensuring the survival and healthy growth of pigs and piglets. The pig farmers ranked regular cleaning the pigsty, including feeding and watering troughs, to maintain hygiene; second among the five housing and environmental practices. The practice of ensuring adequate ventilation and proper drainage to maintain a dry and clean environment was ranked third and providing sufficient space per pig, both indoors and outdoors, with separate areas for feeding and resting ranked fourth.

Adoption of various feeding and nutritional practices is presented in Table 2. The majority of pig farmers reported weaning piglets at the appropriate age (around two months or earlier, depending on the farmer's preference) to allow sows to recover and prepare for the next farrowing. This practice was ranked first, with an adoption index of 91 percent. Feeding pigs at consistent times (generally twice daily) and adjusting feed quantities based on growth stage was ranked second, with an adoption index of 78.50 percent. Very less number of pig farmers follows the practice of providing access to fresh, clean water at all times, preferably through nipple drinkers with the adoption index of only 55 percent.

Adoption of various health management practices is presented in Table 3. The practice of vaccinating pigs against common diseases like swine fever, and test breeding pigs for diseases like brucellosis and leptospirosis ranked first with an adoption index of 95 percent. The practice of maintaining records of vaccinations, deworming, and other health treatments ranked second with the adoption index of 91 percent. Whereas, the practice of deworming pigs regularly, especially if they are prone to parasitic infections ranked third with the adoption index of 60.50 percent. Very less number of farmers follow the practice of implementing biosecurity measures to prevent disease introduction, such as isolating new animals and restricting farm visitors which is considered as very critical for proper health condition of the pigs was recorded with adoption index of only 56.50 percent.

Adoption of improved breeding and reproduction practices is presented in Table 4. Among the practices, providing adequate feed and proper care to pregnant and lactating sows secured the highest rank, with an adoption index of 96.50 percent. This was followed by the practice of housing boars individually, ensuring regular exercise, and testing them for brucellosis and leptospirosis, which ranked second.

Adoption of Scientific Pig Rearing Practices

Table 1. Adoption of various advanced housing and environment practices.

Housing and Environment practices	Regular adoption	Sometimes adoption	Non adoption	TAS	MS	AI	Rank
Utilize hard, even, non-slippery, and well-sloped floors to facilitate drainage and cleaning.	82	10	8	174	1.74	87	I
Regularly clean the pigsty, including feeding and watering troughs, to maintain hygiene.	71	23	6	165	1.65	82.5	II
Ensure adequate ventilation and proper drainage to maintain a dry and clean environment	69	15	16	153	1.53	76.5	III
Provide sufficient space per pig, both indoors and outdoors, with separate areas for feeding and resting.	65	17	18	147	1.47	73.5	IV
Offer shade and cool drinking water during hot weather.	53	32	15	138	1.38	69	V

Table 2: Adoption of various Feeding and nutrition practices

Feeding and nutrition practices	Regular adoption	Sometimes adoption	Non adoption	TAS	MS	AI	Rank
Wean piglets at the appropriate age (2 months or earlier, depending on the farmer's preference) to allow the sow to recover and prepare for the next farrowing.	85	12	3	182	1.82	91	I
Feed pigs at consistent times, twice a day, and adjust the amount based on their growth stage.	71	15	14	157	1.57	78.5	II
Feed pigs a balanced diet with adequate protein, carbohydrates, vitamins, and minerals.	59	28	13	146	1.46	73	III
Provide access to fresh, clean water at all times, preferably through nipple drinkers.	31	48	21	110	1.1	55	IV

The third most adopted practice was the use of guard rails for newborn piglets, along with treating their navel cords with tincture of iodine, and ensuring timely access to colostrum and creep feed.

Adoption of advanced marketing practices is presented in Table 5. The practice of exploring various marketing channels, including social media and direct

sales ranked first with the adoption index of 52.5 percent. Least adopted practice was researching the market demand and potential buyers before starting pig farming which is very important for better profitability of any business.

Table 3: Adoption of various Health management practices

Health management practices	Regular adoption	Sometimes adoption	Non adoption	TAS	MS	AI	Rank
Vaccinate pigs against common diseases like swine fever, and test breeding pigs for diseases like brucellosis and leptospirosis.	91	8	1	190	1.90	95.00	I
Maintain records of vaccinations, deworming, and other health treatments.	85	12	3	182	1.82	91.00	II
Deworm pigs regularly, especially if they are prone to parasitic infections.	35	51	14	121	1.21	60.50	III
Implement biosecurity measures to prevent disease introduction, such as isolating new animals and restricting farm visitors.	45	23		113	1.13	56.50	IV

Table 4: Adoption of various Breeding and reproduction practices

Breeding and reproduction practices	Regular adoption	Sometimes adoption	Non adoption	TAS	MS	AI	Rank
Provide adequate feed and care for pregnant and lactating sows.	93	7	0	193	1.93	96.50	I
Ensure boars are housed individually, regularly exercised, and tested for brucellosis and leptospirosis.	71	13	16	155	1.55	77.50	II
Provide guard rails for new born piglets, treat their navel cords with tincture of iodine, and ensure they receive colostrum and creep feed.	17	19	64	53	0.53	26.50	III

Table 5: Adoption of Advanced Marketing practices

Advanced Marketing practices	Regular adoption	Sometimes adoption	Non adoption	TAS	MS	AI	Rank
Explore various marketing channels, including social media and direct sales.	48	9	43	105	1.05	52.50	I
Research the market demand and potential buyers before starting pig farming.	29	13	58	71	0.71	35.50	II

CONCLUSION

The study assessed the extent of adoption of improved pig farming practices among 100 farmers in Jorhat district of Assam. Five domains of practices were analysed: housing, feeding, healthcare, breeding, and marketing. Majority of the sample pig farmers adopted the practices like utilizing hard, even, non-

slippery, and well-sloped floors to facilitate drainage and cleaning, weaning piglets at the appropriate age (2 months or earlier, depending on the farmer's preference) to allow the sow to recover and prepare for the next farrowing, vaccinating pigs against common diseases like swine fever, and test breeding pigs for diseases like brucellosis and leptospirosis, providing adequate feed and care for pregnant and lactating sows

Adoption of Scientific Pig Rearing Practices

etc. Least adopted practices were offering shade and cool drinking water during hot weather, providing access to fresh, clean water at all times, preferably through nipple drinkers, implementing biosecurity measures to prevent disease introduction, such as isolating new animals and restricting farm visitors etc. which are very much important for a highly productive, viable, disease-free pig farm and overall financial improvement of the farmers and ultimately improving the rural economy. Therefore, it is need of the hour for increasing awareness among the pig farmers by the extension workers.

The study underscores that pig farmers in Assam exhibit a moderate to high level of adoption of basic husbandry practices, especially in housing, feeding, and healthcare management. However, adoption of crucial breeding, reproductive, and marketing practices remains low. This imbalance limits productivity and profitability, thereby widening the pork demand–supply gap in the state. Strengthening extension support, organizing capacity-building programmes, ensuring access to quality breeding stock, and promoting market linkages are essential to improve the overall performance of pig farming. Focused policy interventions, particularly in reproductive management and market orientation, can transform piggyery into a more sustainable and remunerative enterprise, thereby contributing to rural livelihood security and nutritional self-reliance in Assam.

REFERENCES

- Mahanta A (2025). Assam's Pig Sector Expected to Grow By 5% In FY 2025: ALPCO GM, <https://www.business-northeast.com/assam-pig-sector-growth>.
- Anonymous (2024). Project Profile for Financial Assistance under Chief Minister's Atmanirbhar Asom Abhijan (CMAAA), <https://cmaaa.assam.gov.in/iservices>.
- Islam R, Nath P, Bharali A and Saikia T (2016). Adoption of improved dairy husbandry practices by the dairy farmers of Sundarpukhuri milk co-operative society in Assam. *Indian J Dairy Sci* **69**(4): 505-509.
- Jogal K V, Trivedi S M and Lakhani C D (2021). Adoption of improved animal husbandry practices by dairy farmers. *Indian J Anim Sci* **91**(12): 1115–1117.
- Karthikeyan C (1994). *Sugar factory registered growers, an analysis of their involvement and impact*. M.Sc., Thesis, Tamil Nadu Agril. University, Coimbatore (India).
- Seth P, Singh K, Chander M and Kumari R (2018). Adoption of T&D pig breed innovation in eastern region of India. *J Krishi Vigyan* **7**(1): 1-3.
- Jothika C, Mohanapriya M, Balasubramanyam D, Senthilkumar K, Devaki K and Kathiravan R S (2022). Feeding practices adopted by small holding Pig farmers in Tamil Nadu. *J Krishi Vigyan* **11**(si): 43-46.
- Kumaravel P and Senthilkumar G (2017). Technological intervention for improving the breeding and production performance of desi pigs. *J Krishi Vigyan* **6**(1): 234-235.
- Borah B K, Sasmal D and Bora M S (2023). Balanced feeding at pre-and post-farrowing period to evaluate the performances of new born piglets. *J Krishi Vigyan* **11**(suppl): 11-14.

Received on 15/06/2025 Accepted on 18/08/2025