

Record keeping for improving profitability and sustainability of pig farming

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[DOI:10.5281/Vettoday.13838432](https://doi.org/10.5281/Vettoday.13838432)

Managing a pig farm which is a dynamic enterprise requires meticulous planning and detailed record-keeping due to constant changes in animal numbers, reproductive status, age structure, daily production and input needs (Banik *et al.*, 2022). Effective management involves tracking the total number of pigs, monitoring reproductive cycles and keeping age distribution records to optimize breeding programs. Daily production metrics such as piglet births, mortality rates and weight gain must be recorded alongside input requirements for feed, water and medications to ensure resource optimization. Synchronizing activities like feeding schedules, breeding, and health checks is crucial for maintaining herd health and productivity. Records should be simple, complete, accurate and regularly updated to ensure reliability and usability. Regular updates and careful data collection are essential, with a choice of manual or digital systems based on the farm's needs. Analyzing these records enables better decision-making and overall farm management improvement (Fountas *et al.*, 2015).

Importance of Record Keeping

1. Pedigree and History Tracking:

Maintaining detailed records of each animal's production, reproduction and health performance is crucial for understanding pedigree and making informed management decisions.

2. Herd and Breed Registration:

Helps in implementing herd and breed registration programmes by identifying animals with optimal performance levels. It also aids in registering and tracking breed-specific characteristics.

3. Breeding Value Estimation:

Maintaining records helps estimate the breeding value

for various economic traits, aiding in selection and culling of animals leading to improvement of overall herd quality and efficiency.

4. Selection of Breeding Stock:

Records help identify suitable animals for breeding based on their performance, pedigree and performance of progeny and relatives, ensuring the selection of high-quality breeding stock.

5. Culling Decisions:

Performance monitoring helps distinguish between high-performing animals and those with issues, facilitating the identification of animals needing special attention or culling.

6. Research and Development:

Detailed records support planning and conducting research to improve pig farming practices and provides data for scientific studies and development projects planning.

7. Breeding Management:

Breeding records improve accuracy in detecting heat and scheduling mating at optimal times, are essential for tracking the breeding activities of each sow and boar, enhancing management efficiency. They also improve accuracy in predicting farrowing times, aiding in farm planning. These records help identify infertile animals and facilitate the analysis of infertility causes, enabling corrective measures to enhance breeding success.

8. Prevention of Inbreeding:

Keeping detailed pedigree records help prevent inbreeding by ensuring genetic diversity within the herd.

9. Performance Comparison:

Records allow farmers to benchmark their farm's performance against industry standards or

other farmers which helps identify strengths, weaknesses and areas for improvement in production, efficiency and management practices.

10. **Feeding Management:** Supports appropriate feeding tailored to the specific production levels of animals ensuring optimal health and performance.
11. **Young Animal Identification:** Maintaining detailed records ensures proper identification of young animals by documenting individual identification numbers or tags.
12. **Input/Output Calculation:** Records aids in determining the efficiency and profitability of farm operations by analyzing the relationship between resources invested (inputs) and the resulting outputs.
13. **Financial and Health Status:** Detailed records help determine both the financial status of the farm and the health status of the animals, providing critical insights for effective management decisions.
14. **Pricing:** Detailed records assist in setting competitive prices for animals based on their performance, pedigree and market demand.

Important records to be maintained in a pig farm

There are several types of records crucial for effective pig farming, each serving as essential tools for monitoring and optimizing farm performance. Key records include animal performance, economic transactions, daily activities and notable events. These records enable farmers to track progress towards production goals and ensure efficient management practices. The important records to be maintained in a pig farm include:

Grower or finisher record card

The grower or finisher record card typically includes essential information such as individual pig identification numbers, dates of birth, breed and gender. Additionally, the card records key performance metrics such as initial and final weights, average daily weight gain, feed consumption, and feed conversion ratios. By maintaining accurate and comprehensive records on grower or finisher pigs, farmers can assess the effectiveness of their management practices, identify areas for improvement and make

informed decisions to optimize pig growth and overall farm profitability.

Animal No	DOB	Sex	Breed	Sire No	Dam No	Date of Slaughter		
Birth weight	Weekly body weight				Body weight at weaning	Average Daily Gain	Feed Conversion Ratio	
	Week 1	Week 2	Week 3	Week 4				
Monthly body weight								
Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9

Sow record card

A sow record card is a crucial tool for tracking the breeding performance, health and overall productivity of individual sows on a pig farm. It includes detailed information on mating dates, pregnancy checks, farrowing outcomes, health events, weights, and feeding records. This information helps farmers monitor each sow's performance and make informed decisions about breed selection. Accurate and systematic record-keeping on these cards ensures effective management and optimal breeding practices.

Animal No	DOB	Sex	Breed	Sire No	Dam No	No of teats	Date of culling / disposal
Date of estrus	Date of Service	Date of Successful Service	Boar No used	Breed of boar	Date of Farrowing		
Parity	No. of piglets born alive	No. of piglets born dead	Litter weight at birth	Litter size at weaning	Litter weight at weaning		

Boar record card

The boar record card is an essential tool for monitoring the performance and health of individual boars in a pig farm, facilitating corrective measures when necessary. It includes key details such as the boar's identification number, date of birth and breed. Additionally, it records the sow number served by the boar, along with the date of service and the number of piglets born (both dead and alive) as well as the number weaned.

Animal No	DOB	Sex	Breed	Sire No	Dam No	No of rudimentary teats	Date of culling/ disposal	Congenital defects if any	Results of any disease testing
Date of puberty	Date of first semen collection	Date of service	Sow No served	Type of mating (AI, hand or pen mating)	Litter size at birth	Litter size at weaning	Litter weight at birth	Litter weight at weaning	

Breeding record

A well-maintained breeding record is crucial for the successful management of a pig farm's reproductive activities. It helps in tracking breeding performance, ensuring the health of the animals and ultimately contributing to the productivity and profitability of the farm.

Animal no	Date of Service	Date of Successful Service	Boar No used	Breed of boar	Expected date of Farrowing	Date of Farrowing

Farrowing records

Maintaining detailed and accurate farrowing records allows pig farmers to track the reproductive performance of individual sows, identify trends in litter size and piglet health. These records also serve as valuable historical data for future breeding decisions and farm management strategies.

Animal no	Date of Farrowing	Litter size at birth (born alive)	No. of Still births, mummified or macerated fetuses	Date of weaning	Litter size at weaning

Animal stock register

This register tracks essential information about the pigs in the herd.

Month	Year	No of piglets	No of growers	No of sows	No of boars	No of culls and mortalities	Total no of animals

Feed Register

A feed register aids in providing proper nutrition to the pigs, managing feed inventory and controlling costs, thereby contributing to the overall productivity and profitability of the farm.

Date	No of animals	Type of feed	Feed in the stock brought forward (Kg)	Feed purchased (Kg)	Feed issued (Kg)	Balance feed carried forward (Kg)

Treatment register

A treatment register for a pig farm is an essential tool for keeping detailed records of all medical treatments administered to the pigs. This helps in monitoring the health of the animals, ensuring

compliance with veterinary protocols and optimizing overall farm management.

Date	Animal no	Pen no	Age	Sex	Symptoms	Diagnosis	Treatment

Mortality register

A mortality register in a pig farm aids in tracking and analyzing the deaths of pigs. It helps in identifying patterns or causes of mortality, which can inform better management practices, improve animal welfare and enhance overall farm productivity. Here's a sample of what a mortality register for a pig farm might include:

Date of death	Animal no	Pen no	Age	Sex	Cause of death	Postmortem findings

Cash book

A cash book for a pig farm is a financial record that tracks all cash transactions related to the farm's operations. It serves as a primary financial management tool, helping to monitor income, expenses and overall cash flow. Here's a comprehensive guide on what a cash book for a pig farm should include and how it can be organized

Money received			Money spent			Balance
Date	Item	Amount	Date	Item	Amount	

Conclusion

Good record-keeping is the cornerstone of effective pig management, providing farmers with invaluable insights into the health, performance profitability of and their enterprise. Without records, a farmer cannot trace past activities or plan for the future effectively, making it difficult to understand the financial position of the farm or the extent of investment required. Accurate records enable informed decision-making and strategic planning for the farm's sustainability and growth. Utilizing farm management software and genetic evaluation tools can further enhance efficiency, productivity and profitability of pig farming.

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