



RESEARCH ARTICLE

LONG-TERM ANTIBIOTIC-FREE POULTRY MANAGEMENT WITH VETERINARY HOMEOPATHY: 11-MONTH OBSERVATION IN A COMMERCIAL LAYER FLOCK IN NEPAL

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ABSTRACT

Antibiotic use in commercial poultry production has raised concerns related to antimicrobial resistance, drug residues, and public health. As a result, alternative and preventive health management approaches are increasingly explored. This field-based case report documents the long-term antibiotic-free management of a commercial Brown layer flock using veterinary homeopathy under practical farming conditions in Nepal. A total of 4,000-day-old layer chicks were reared and monitored up to 11 months of age in a commercial farm setting, following standard housing, nutrition, biosecurity, and vaccination protocols. Veterinary homeopathy was employed as the primary preventive health management system, with multi-component formulations administered via drinking water according to age and production stage. No therapeutic antibiotics were used during the observation period, except for any antibiotic components present in commercially sourced feed. Key outcome parameters included mortality, egg production, egg size uniformity, feed conversion performance, and incidence of clinically apparent disease. The flock demonstrated cumulative mortality of less than 1%, average egg production of approximately 94%, uniform egg size, optimal feed conversion within breed standards, and no clinically evident major bacterial or viral disease outbreaks. Occasional suspected Newcastle disease cases were reportedly managed without measurable production loss. Although the study is observational and lacks a control group and routine laboratory confirmation, the findings suggest that veterinary homeopathy, when integrated with standard management and vaccination programs, may contribute to maintaining flock health and productivity in antibiotic-free commercial layer systems. Further controlled studies are recommended to validate these observations.

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INTRODUCTION

Commercial poultry production plays a vital role in meeting the growing global demand for affordable animal protein. Disease prevention and health management are critical components of maintaining productivity and economic sustainability in layer farming systems. Conventionally, antibiotics have been widely used for therapeutic, prophylactic, and growth-promoting purposes in poultry. However, increasing concerns regarding antimicrobial resistance, drug residues in eggs, and potential public health risks have led to global efforts to reduce or eliminate antibiotic use in food-producing animals. In response to these concerns, antibiotic-free poultry production systems are gaining attention worldwide. Such systems emphasize preventive health management, biosecurity, vaccination, nutrition, and alternative supportive therapies. Among the various alternative approaches explored, veterinary homeopathy has been used in some regions as a complementary or preventive health management tool due to its low-dose nature, ease of administration, and minimal residue concerns. Veterinary homeopathy is based on the principle of stimulating the organism's self-regulatory mechanisms and has been applied in livestock for supporting immunity, stress adaptation, and disease resistance. Although its mechanisms of action remain a subject

of scientific debate, field-level observations and farmer-reported outcomes have encouraged its continued use in certain poultry production systems, particularly in antibiotic-free management programs. In Nepal, commercial poultry farming is expanding rapidly, but systematic documentation of antibiotic-free management practices under field conditions remains limited. There is a need for practical case-based evidence describing alternative health management approaches implemented in real farm environments. The present study aims to document a field-based case report of long-term antibiotic-free management of a commercial Brown layer flock using veterinary homeopathy under standard commercial farming conditions in Nepal, with a focus on productivity, mortality, and disease occurrence.

MATERIALS AND METHODS

Study Design and Location: This study represents an observational, field-based case report conducted under commercial poultry farming conditions. The study was carried out at a commercial layer farm located in Syanja District, Nepal. The farm operated under standard commercial management practices and routine veterinary supervision throughout the observation period.

Flock Details and Management: A total of 4,000-day-old Brown layer chicks were included in the study. The birds were reared and monitored from day-old up to 11 months of age. Standard commercial layer management practices were followed throughout the rearing and laying periods, including appropriate housing, ventilation, lighting programs, stocking density, litter management, and biosecurity measures in accordance with local commercial poultry production standards. Birds were provided with commercially available layer feed and clean drinking water ad libitum. No therapeutic antibiotics were administered to the flock during the study period, except for any antibiotic components that may have been present in commercially sourced feed.

Vaccination Program: All birds received routine vaccinations as per standard regional poultry vaccination schedules. Vaccines administered included those against Newcastle disease (ND), infectious bursal disease (IBD), and H9 avian influenza, following manufacturer recommendations and local veterinary guidelines.

Homeopathic Management Protocol: Veterinary homeopathy was employed as the primary preventive health management system throughout the rearing and laying period. Homeopathic interventions consisted of multi-component formulations prepared in centesimal (30C) potency and administered via drinking water. The formulations were applied either daily or in cyclic schedules depending on the age, physiological stage, and production status of the birds. The focus of homeopathic management varied across different growth and production phases and included support for chick vitality, growth and feed conversion efficiency, gut health, immune support, disease resistance, and maintenance of laying performance. Specific formulation compositions were proprietary and therefore not disclosed.

Data Collection and Observations: Farm records were used to document key performance and health parameters, including cumulative mortality, egg production percentage, egg size uniformity, feed conversion performance, and incidence of clinically apparent disease. Observations were recorded continuously throughout the study period by trained farm staff under veterinary supervision. Clinical signs suggestive of infectious diseases were monitored daily. No routine laboratory diagnostic testing was conducted during the observation period; therefore, disease assessments were based on clinical observations, farm records, and production performance indicators.

Flock Performance and Mortality: The performance and health outcomes of the commercial Brown layer flock managed without therapeutic antibiotics are summarized in Table 1. The flock consisted of 4,000 Brown layer birds monitored up to 11 months of age. Cumulative mortality during the observation period remained below 1%, indicating high overall flock survival under commercial farm conditions. Average egg production during the laying period was approximately 94%, with production remaining stable over time. Egg size was uniform, with no clinically significant incidence of oversized or undersized eggs observed. Feed conversion performance remained within the expected breed standards throughout the production cycle.

Results: Mortality & Production

Table 1. Mortality and Production

| Parameter | Value |
|------------------------|---------------------------------------|
| Flock size | 4000 Brown layers |
| Age of birds | 11 months |
| Mortality | <1% |
| Average egg production | 94% |
| Egg size | Uniform (no big/small eggs) |
| FCR | Optimal (within breed standards) |
| Antibiotic use | None (except in feed) |
| Vaccination | Routine (ND, H9, etc.) |
| Homeopathy use | Daily/cyclic proprietary formulations |



Figure 1. Egg production Over Time

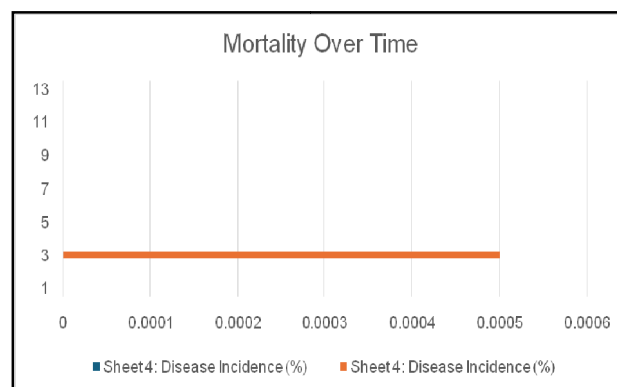


Figure 2. Mortality Over Time

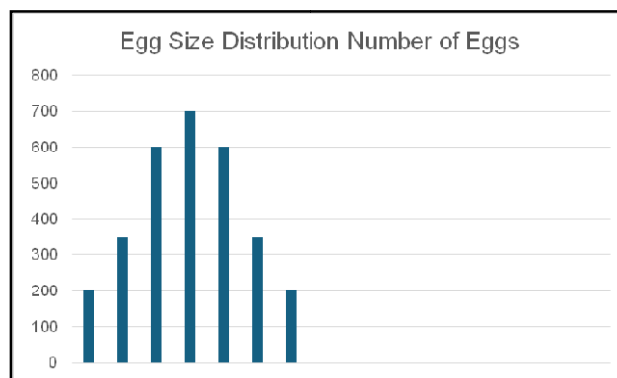


Figure 3. Egg Size Distribution

Disease Occurrence: No clinically evident major bacterial diseases, including chronic respiratory disease (CRD) or coccidiosis, were observed during the study period. Similarly, no confirmed viral disease outbreaks, including H9 avian influenza, were recorded based on clinical monitoring and farm records. Occasional cases with clinical signs suggestive of Newcastle disease were noted. These cases were managed using homeopathic interventions, and no measurable adverse effects on overall egg production or flock performance were observed. No therapeutic antibiotics were required for disease management during the observation period.

Production Trends: Egg production, mortality, and egg size distribution trends are illustrated in Figures 1–3. Egg production remained consistently high throughout the laying period, while mortality remained low and stable. Egg size distribution demonstrated uniformity across the flock, supporting stable physiological performance under the applied management system.

Table 2. Disease Frequency

| Disease / Condition | Occurrence | Intervention |
|------------------------------|---------------|------------------------------|
| Bacterial (CRD, coccidiosis) | None | Homeopathy preventive |
| Viral (H9) | None | Homeopathy preventive |
| Suspected ND | Rare | Homeopathy medicines applied |
| Other | None observed | Homeopathy preventive |

Table 3. Homeopathy Protocol Timeline

| Age (Weeks) | Homeopathy Focus | Remarks |
|-------------|--------------------------|--|
| Day-old | Chick vitality | Early stimulation of Vital Force |
| 2–4 weeks | Growth support, FCR | Ensure strong immunity |
| 5–8 weeks | Gut health, digestion | Support disease resistance |
| 9–16 weeks | Immune support | Prevent viral/bacterial diseases |
| >16 weeks | Layer production support | Maintain uniform egg size & production |
| 11 months | Deworming homeopathy | Planned intervention |

Summary of Key Outcomes: The principal production and health indicators observed during the study period are summarized as follows:

- Cumulative mortality: <1%
- Average egg production: ~94%
- Egg size: Uniform, within breed standards
- Feed conversion ratio: Optimal, within breed standards
- Therapeutic antibiotic use: None
- Disease incidence: No clinically evident major bacterial or viral outbreaks

DISCUSSION

This field-based case report describes the long-term, antibiotic-free management of a commercial layer flock using veterinary homeopathy under practical farm conditions in Nepal. Over an observation period spanning from day-old chicks to 11 months of age, the flock exhibited low cumulative mortality, high egg production, uniform egg size, and no clinically confirmed major infectious disease outbreaks. The observed cumulative mortality of less than 1% is lower than commonly reported in commercial layer operations, particularly under conditions of disease pressure and environmental stress. Similarly, the average peak egg production of approximately 94% and uniform egg size indicate stable physiological performance and effective flock management, suggesting that overall bird health and resilience were maintained throughout the production cycle. Veterinary homeopathy served as the primary health management approach, with remedies administered preventively and cyclically according to the birds' age and production stage. While the biological mechanisms of homeopathy remain debated, its use in this flock coincided with sustained vitality, disease resistance, and production stability. The absence of clinically evident bacterial diseases such as chronic respiratory disease and coccidiosis, as well as the lack of H9 avian influenza outbreaks, may reflect enhanced resilience under field conditions. Occasional suspected Newcastle disease cases were reportedly managed without measurable production loss. These findings align with the growing interest in antibiotic-free poultry production systems aimed at reducing antimicrobial resistance, drug residues in animal products, and associated public health risks. Alternative health management approaches—including phytotherapy, probiotics, and homeopathy—are increasingly explored as supportive tools within sustainable poultry systems. This case provides practical field-level observations supporting the potential role of veterinary homeopathy as part of such strategies. Several limitations should be acknowledged.

This report is an observational case study without a parallel control flock, which limits the ability to establish causality. Disease diagnosis relied primarily on clinical observations and farm records rather than routine laboratory confirmation. The use of proprietary formulations may also limit reproducibility. Environmental management, biosecurity measures, and farm expertise likely contributed substantially to the observed outcomes. Despite these limitations, the extended observation period, large flock size, and consistent production records provide valuable real-world evidence. The results suggest that veterinary homeopathy, when integrated with standard management and vaccination programs, may contribute to maintaining flock health and productivity under commercial conditions. Controlled experimental studies with appropriate control groups and laboratory diagnostics are recommended to rigorously evaluate the efficacy and mechanisms of veterinary homeopathy in poultry production systems.

CONCLUSION

This field-based case report documents the long-term antibiotic-free management of a commercial Brown layer flock using veterinary homeopathy under practical farming conditions in Nepal. Over an observation period from day-old chicks to 11 months of age, the flock exhibited low cumulative mortality, high egg production, uniform egg size, and stable overall performance within breed standards, without the use of therapeutic antibiotics. These observations suggest that veterinary homeopathy, when applied preventively and integrated with standard poultry management and vaccination programs, may support flock health, disease resilience, and productive performance in commercial layer systems. The findings are particularly relevant given global concerns about antimicrobial resistance, food safety, and sustainable livestock production. However, as this report is an observational field case without a controlled experimental design or routine laboratory confirmation of disease status, the results should be interpreted with caution. Environmental management, biosecurity, and farm expertise may also have contributed to the positive outcomes observed. Therefore, while the findings are encouraging, they do not establish causal efficacy. Further well-designed controlled studies are recommended to validate these observations, compare outcomes with conventional management systems, and explore the role of veterinary homeopathy as a complementary approach in antibiotic-free poultry production. Preventive and cyclic use of homeopathy across growth phases may help maintain uniform flock performance under field conditions.

Limitations

- Observational study, no control flock
- Clinical observations only, limited laboratory confirmation
- Proprietary formulations limit reproducibility

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