

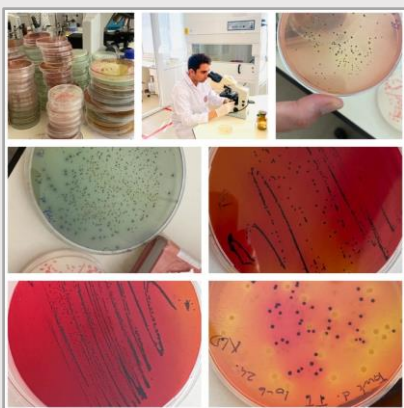


KEY WORDS

- ✓ Salmonella
- ✓ Serotype
- ✓ Prevalence
- ✓ Growth kinetics
- ✓ Antimicrobial resistance

CONTACT

E-MAIL:
abbasjohn205@gmail.com
THESIS SUPERVISOR
TEHONE:E-MAIL:
tayfun@uludag.edu.tr



COMPARISON OF GROWTH KINETICS OF VARIOUS SALMONELLA SEROTYPES IN DIFFERENT SEROGROUPS AND DETERMINATION OF THE PREVALENCE OF SALMONELLA SEROTYPES IN ANIMAL FECES

Juon ABBASS

ORCID: 0000-0001-6877-4721

BURSA ULUDAĞ UNIVERSITY
GRADUATE SCHOOL OF HEALTH SCIENCES
VETERINARY MICROBIOLOGY DEPARTMENT
PhD PROGRAM

GRADUATION DATE: 29.09.2026

SUPERVISOR

Prof. Dr. Kamil Tayfun ÇARLI
ORCID-NO: 0000-0001-6045-8644
BURSA ULUDAĞ UNIVERSITY
GRADUATE SCHOOL OF HEALTH SCIENCES
VETERINARY MICROBIOLOGY DEPARTMENT
BURSA – TÜRKİYE

THESIS ABSTRACT

This thesis investigated Salmonella prevalence, serotype distribution, antimicrobial resistance and growth kinetics in animal-origin samples. Among 750 samples, 14 (1.87%) were positive: *S. Infantis* (50.0%), *S. Typhimurium* (28.6%), *S. Anatum* (14.3%) and *S. (4,12:d,n,x)* (7.1%). All isolates were resistant to ampicillin, amoxicillin-clavulanate, cefoxitin and nalidixic acid; 64.3% were multidrug resistant.

Growth Kinetics of five Salmonella serotypes was modelled by Modified Gompertz. *S. Enteritidis* showed the highest overall kinetic performance ($\lambda=2.96$ h; $\mu_{max}=0.453$), whereas *S. Gallinarum* showed the lowest ($\lambda=4.36$ h; $\mu_{max}=0.341$). The highest μ_{max} was 0.63 in BPW with chicken feces and the lowest was 0.23 in RVB with dog feces ($R^2=0.96-0.99$).

APPLICATION AREAS OF THE THESIS RESULTS

The findings can support Salmonella control in veterinary public health, poultry production, food safety and One Health surveillance. Growth-kinetic data may help optimize isolation and enrichment protocols. Antimicrobial-resistance results provide a scientific basis for surveillance, biosecurity, prudent antimicrobial use and farm-to-fork risk management.

ACADEMIC ACTIVITIES

1. Algan D, Varlık T, Akkas ME, Abbass J, et al. (2026). Enterococcus faecalis-associated infective aortic endocarditis as a cause of arterial thromboembolism in a cat. Veterinary Research Communications, 50, 266.
2. Ardicli O, Serim Kanar T, Abbass J, et al. (2026). Molecular Characterization and Phylogenetic Analysis of Serotype 8b Fowl Adenoviruses from Commercial Broiler and Layer Flocks with Hepatitis. Viruses, 18(4), 415.
3. Abbass J, Ashraf M, Kahya Demirbilek S, et al. (2024). Occurrence of biofilm forming fungal species and in vitro evaluation of anti-biofilm activity of disinfectants used in drinking water. Veterinary Research Forum, 15(12), 651-656.
4. Ardicli O, Coven FO, Nalbantsoy A, et al., Abbass J, et al. (2025). Evaluation of comparative efficacy of Prowill disinfectant, Astragalus root extract, and ivermectin against avian coronavirus in chicken embryo model. Polish Journal of Veterinary Sciences, 28(4), 597-606. DOI: 10.24425/pjvs.2025.156087.
5. Poster presentation: "ELISA as a speculative tool for antibody titers in backyard broilers" (IBDV, FAdV and IB), 7th White Meat Congress, Antalya, Türkiye.
6. Oral presentation: "Genotypic Characterization of Fowl Adenovirus Serotype 8B," 11th International New York Conference on Evolving Trends in Interdisciplinary Research & Practices, Manhattan, New York, 1-3 February 2025.

