



ATATÜRK  
UNIVERSITY  
PUBLICATIONS

# Veterinary Sciences *and Practices*

*Formerly: Atatürk University Journal of Veterinary Sciences  
Official journal of Atatürk University Veterinary Sciences*

**Volume 18 • Issue 1 • April 2023**



EISSN 2822-3608  
[veterinarysciences-ataunipress.org](http://veterinarysciences-ataunipress.org)

# Veterinary Sciences and Practices

## Editor-in-Chief

**Mustafa Sinan AKTAŞ**

Department of Internal Medicine, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Turkey

## Associate Editors

**Hakan AYDIN**

Department of Virology, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Turkey

**Murat GENÇ**

Department of Zootechnics, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Turkey

**Uğur ÖZENTÜRK**

Department of Zootechnics, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Turkey

## Technical Editors

**Ekrem LAÇIN**

Department of Zootechnics, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Turkey

## Foreign Language Services

**M. Gökhan ŞENOCAK**

Department of Surgery, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Turkey

## Advisory Board

**Ardita JAHJA-HOXHA**

Kosovo

**Aleksandra GORECKA-BRUZDA**

Department of Animal Behavior, Polish Academy of Sciences, Institute of Genetics and Animal Biotechnology, Warsaw, Poland

**Daniel ZAHNER**

Faculty of Veterinary Medicine, Justus Liebig University Giessen, Giessen, Germany

**Eva VOŠLAROVA**

Department of Animal Protection and Welfare and Veterinary Public Health, Veterinary and Pharmaceutical Sciences University, Czech Republic

**Mustafa ALIŞARLI**

Department of Food Hygiene and Technology, Bolu Abant İzzet Baysal University, Faculty of Veterinary Medicine, Bolu, Turkey

**Mustafa ATASEVER**

Department of Food Hygiene and Technology, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Turkey

**Tanvir RAHMAN**

Department of Microbiology and Hygiene, Bangladesh Agricultural University, Bangladesh

**Zekai HALICI**

Department of Medical Pharmacology, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Turkey



### Founder

İbrahim Kara

### General Manager

Ali Şahin

### Finance Coordinator

Elif Yıldız Çelik

### Journal Managers

İrem Soysal

Bahar Albayrak

Deniz Kaya

İrmak Berberoğlu

### Publications Coordinators

Gökhan Çimen

Arzu Arı

Alara Ergin

Hira Gizem Fidan

İrem Özmen

Derya Azer

Burcu Demirer

### Project Coordinators

Doğan Oruç

Sinem Fehime Koz

### Contact

Publisher: Atatürk University

Address: Atatürk University, Yakutiye, Erzurum, Turkey

Publishing Service: AVES

Address: Büyükdere Cad., 105/9 34394 Şişli, İstanbul, Turkey

Phone: +90 212 217 17 00

E-mail: info@avesyayincilik.com

Webpage: www.avesyayincilik.com

# Veterinary Sciences and Practices

## AIMS AND SCOPE

Veterinary Sciences and Practices (Vet Sci Pract) is a scientific, open access, online-only periodical published in accordance with independent, unbiased, and double-blinded peer-review principles. The journal is published triannually in April, August, and December. The publication languages of the journal are Turkish and English. The articles submitted in English will be given priority in evaluation.

Veterinary Sciences and Practices aims to contribute to the literature publishing manuscripts at the highest scientific level on all fields of veterinary medicine. The journal publishes original articles, invited reviews, case reports that are prepared in accordance with ethical guidelines.

The scope of the journal includes but not limited to; basic and clinical veterinary sciences, raising livestock, veterinary genetics, animal nutrition and nutritional diseases, zoonoses, veterinary medicinal products and public health, and food hygiene, technology, exotic animal science and laboratory animal science.

The target audience of the journal includes specialists and professionals working and interested in all disciplines of veterinary medicine.

Veterinary Sciences and Practices currently indexed in Scopus, DOAJ, EBSCO, CABI, China National Knowledge Infrastructure (CNKI) and TUBITAK ULAKBIM TR Index.

The editorial and publication processes of the journal are shaped in accordance with the guidelines of the International Committee of Medical Journal Editors (ICMJE), World Association of Medical Editors (WAME), Council of Science Editors (CSE), Committee on Publication Ethics (COPE), European Association of Science Editors (EASE), and National Information Standards Organization (NISO). The journal is in conformity with the Principles of Transparency and Best Practice in Scholarly Publishing ([doaj.org/bestpractice](https://doaj.org/bestpractice)).

## Open Access Statement

Veterinary Sciences and Practices is an open access publication, and the journal's publication model is based on Budapest Access Initiative (BOAI) declaration. All published content is available online, free of charge at <https://veterinarysciences-ataunipress.org/>. Veterinary Sciences and Practices is content is licensed under a Creative Commons Attribution-NonCommercial (CC BY-NC) 4.0 International License which permits third parties to share and adapt the content for non-commercial purposes by giving the appropriate credit to the original work.

You can find the current version of the Instructions to Authors at <https://veterinarysciences-ataunipress.org/>.

**Editor-in-Chief:** Mustafa Sinan AKTAŞ

**Address:** Atatürk University, Faculty of Veterinary Medicine, Department of Internal Medicine, Erzurum, Turkey

**E-mail:** [vetdersisi@atauni.edu.tr](mailto:vetergersi@atauni.edu.tr)

**Publisher:** Atatürk University

**Address:** Atatürk University, Yakutiye, Erzurum, Turkey

**Publishing Service:** AVES

**Address:** Büyükdere Cad., 105/9 34394 Şişli, İstanbul, Turkey

**Phone:** +90 212 217 17 00

**E-mail:** [info@avesyayincilik.com](mailto:info@avesyayincilik.com)

**Webpage:** [www.avesyayincilik.com](http://www.avesyayincilik.com)

# Veterinary Sciences and Practices

## AMAÇ VE KAPSAM

Veterinary Sciences and Practices; (Vet Sci Pract), bağımsız, tarafsız ve çift-kör hakemlik ilkelerine uygun olarak yayınlanan, bilimsel, açık erişimli, yalnızca çevrimiçi bir süreli yayındır. Dergi yılda üç kez Nisan, Ağustos ve Aralık aylarında yayımlanır. Derginin yayın dili Türkçe ve İngilizce'dir. İngilizce olarak gönderilen makalelere değerlendirmede öncelik verilecektir.

Veterinary Sciences and Practices; veteriner hekimliğin tüm alanlarında bilimsel olarak en üst düzeyde makaleler yayınlayarak literatüre katkı sağlamayı amaçlamaktadır. Dergi, etik kurallara uygun olarak hazırlanmış özgün makaleler, davetli derlemeler, olgu sunumları yayınlar.

Derginin kapsamı bunlarla sınırlı olmamak üzere; temel ve klinik veterinerlik bilimleri, hayvancılık, veteriner genetiği, hayvan besleme ve beslenme hastalıkları, zoonozlar, veteriner tıbbi ürünler ve halk sağlığı ile gıda hijyeni, teknoloji, egzotik hayvan bilimi ve laboratuvar hayvanı bilimidir.

Derginin hedef kitlesi, veteriner hekimliğin tüm disiplinlerinde çalışan ve ilgilenen uzmanlar ve profesyonellerdir.

Veterinary Sciences and Practices; Scopus, DOAJ, EBSCO, CABI, China National Knowledge Infrastructure (CNKI) ve TÜBİTAK ULAKBİM TR Dizin tarafından indekslenmektedir.

Derginin editöryel ve yayın süreçleri International Committee of Medical Journal Editors (ICMJE), World Association of Medical Editors (WAME), Council of Science Editors (CSE), Committee on Publication Ethics (COPE), European Association of Science Editors (EASE) ve National Information Standards Organization (NISO) kılavuzlarına uygun olarak biçimlendirilmiştir. Veterinary Sciences and Practices editöryel ve yayın süreçleri, Akademik Yayıncılıkta Şeffaflık ve En İyi Uygulama (doaj.org/bestpractice) ilkelerine uygun olarak yürütülmektedir.

Veterinary Sciences and Practices yayınlanma modeli Budapeşte Açık Erişim Girişimi (BOAI) bildirgesine dayanan açık erişimli bilimsel bir dergidir. Derginin arşivine <https://veterinarysciences-ataunipress.org/> adresinden ücretsiz olarak erişilebilir. Veterinary Sciences and Practices'in içeriği, Creative Commons Atıf-GayriTicari (CC-BY-NC) 4.0 Uluslararası Lisansı ile yayınlanmaktadır.

Yazarlara Bilgi'nin güncel versiyonuna <https://veterinarysciences-ataunipress.org/> adresinden ulaşabilirsiniz.

**Baş Editör:** Mustafa Sinan AKTAŞ

**Adres:** Atatürk Üniversitesi, Veteriner Fakültesi, İç Hastalıkları Anabilim Dalı, Erzurum, Türkiye

**E-posta:** vetdergisi@atauni.edu.tr

**Yayıncı:** Atatürk Üniversitesi

**Adres:** Atatürk Üniversitesi, Yakutiye, Erzurum, Türkiye

**Yayınevi:** AVES

**Adres:** Büyükdere Cad., 105/9 34394 Şişli, İstanbul, Türkiye

**Tel:** +90 212 217 17 00

**E-posta:** info@avesyayincilik.com

**Web:** www.avesyayincilik.com

## CONTENTS

### REVIEW / DERLEME

- 1 **Epidemiology of Animal and Human *Campylobacter* Species Infections in Nigeria: A Retrospective Insight and the Need for One Health Approach in the Prevention and Control**  
Nijerya'da Hayvan ve İnsan *Campylobacter* Türleri Enfeksiyonlarının Epidemiyolojisi: Retrospektif Bir Bakış ve Önleme ve Kontrolde Tek Sağlık Yaklaşımına Olan İhtiyaç  
*Innocent O. NWANKWO, Mohammed D. SALIHU, John A. NWANTA*

### RESEARCH ARTICLES / ARAŞTIRMA MAKALELERİ

- 12 **Köftelerin Bazı Kalite Özelliklerine Bamya Müsilaj Bazlı Yenilebilir Kaplamanın Etkisi**  
The Effect of Okra mucilage Based Edible Coating on Some Quality Properties of Meatballs  
*Enes TERCANLI, Mustafa ATASEVER*
- 19 **Investigation of Neurotoxicity Oxidative Stress and Oxidative DNA Damage in Cadmium-Induced Brain Injury in Rats**  
Sıçanlarda Kadmiyuma Bağlı Beyin Hasarında Nörotoksisite Oksidatif Stres ve Oksidatif DNA Hasarının Araştırılması  
*İsmail BOLAT, Serkan YILDIRIM, Nesrin CEYLAN, Yavuz Selim SAĞLAM, Ferit Kansu ÖRNEK, Merve BOLAT, Metin KILIÇOĞLU*
- 25 **Detection of Multidrug-Resistant *Staphylococci* in Beef Processing Line**  
Siğir Eti İşleme Hattında Çoklu İlaç Dirençli *Stafilokokların* Belirlenmesi  
*Akwoba JOSEPH OGUGUA, Catherine UJU OKAFOR, Simeon CHIBUKO OKAFOR, Emmanuel OKECHUKWU NJOGA, Umunna MADUBUIKE, John ANAELOM NWANTA, Gabriel O. EZEİFEKA*
- 31 ***Sarcoptes canis*'le Doğal Enfeste Köpeklerde Serum Neopterin ve Prokalsitonin Seviyeleri**  
Serum Neopterin and Procalcitonin Levels in Dogs Naturally Infested with *Sarcoptes canis*  
*Yusuf UMUT BATI, Oğuz MERHAN, Nilgün AYDIN, Enes AKYÜZ, Mert SEZER, Ekin EMRE ERKİLİÇ, Zati VATANSEVER, Ali HAYDAR KIRMIZIGÜL*
- 35 **Multilokus Variable Number of Tandem Repeat Analiz (MLVA) Veri Tabanlarında Türkiye'den İzole Edilen *Bacillus anthracis* Genotiplerinin Moleküler Epidemiyolojisi**  
Molecular Epidemiology of *Bacillus anthracis* Genotypes Isolated From Turkey in Multilocus Variable Number of Tandem Repeat Analysis Databases  
*Ediz Kağan ÖZGEN*

### CASE REPORT / OLGU SUNUMU

- 44 **Surgical Management of Crop Impaction by Inguvotomy in an Aseel Domestic Fowl**  
Evcil bir Aseel Tavuğunda Kursak Tıkanıklığının Inguvotomi ile Cerrahi Yönetimi  
*Kavin RAVIKUMAR, Gowtham RAJAMURUGAN*