# Prof. Dr. UMUT TOPRAK

## Kişisel Bilgiler

**İş Telefonu:** +90 312 596 1018
**Fax Telefonu:** +90 312 318 7029
**E-posta:** utoprak@agri.ankara.edu.tr
**Web:** https://avesis.ankara.edu.tr/utoprak
**Posta Adresi:** Ankara Universitesi Ziraat Fakültesi Bitki Koruma Bölümü Gümüşdere Mah. Fatih Cad. No: 41 06120 Gümüşdeı Keçiören Ankara

**Uluslararası Araştırmacı ID'leri**
ORCID: 0000-0001-7568-816X
Publons / Web Of Science ResearcherID: AAI-1182-2020
ScopusID: 16235573600
Yoksis Araştırmacı ID: 22355

## Biyografi

https://www.molenlab.com/

## Eğitim Bilgileri

Doktora, University of Saskatchewan, Fen Fakültesi/Biyoloji, Biyoloji, Kanada 2006 - 2011
Yüksek Lisans, Ankara Üniversitesi, Fen Bilimleri Enstitüsü, Bitki Koruma (Yl) (Tezli), Türkiye 2001 - 2004
Lisans, Ankara Üniversitesi, Ziraat Fakültesi, Bitki Koruma Bölümü, Türkiye 1997 - 2001

## Yaptığı Tezler

Doktora, The molecular architecture of Mamestra configurata peritrophic matrix, University of Saskatchewan, Fen Fakültesi/Biyoloji, 2011
Yüksek Lisans, Bazı bakulovirüs preparatlarının laboratuvar koşullarında noctuidae familyasındaki önemli tarımsal zararlı türler üzerinde etkinliklerinin belirlenmesi, Ankara Üniversitesi, Fen Bilimleri Enstitüsü, Bitki Koruma (Yl) (Tezli), 2004

## Araştırma Alanları

Tarımsal Bilimler, Ziraat, Bitki Koruma, Entomoloji, Böceklerle Mücadele, Biyoteknoloji ve Genetik

## Akademik Unvanlar / Görevler

Prof.Dr., Ankara Üniversitesi, Ziraat Fakültesi, Bitki Koruma Bölümü, 2022 - Devam Ediyor
Doç.Dr., Ankara Üniversitesi, Ziraat Fakültesi, Bitki Koruma Bölümü, 2015 - 2022
Yrd.Doç.Dr., Ankara Üniversitesi, Ziraat Fakültesi, Bitki Koruma Bölümü, 2013 - 2015
Araştırma Görevlisi, Ankara Üniversitesi, Ziraat Fakültesi, Bitki Koruma Bölümü, 2011 - 2013

Araştırma Görevlisi, Ankara Üniversitesi, Ziraat Fakültesi, Bitki Koruma Bölümü, 2002 - 2005

## Akademik İdari Deneyim

Socıety For Invertebrate Pathology, 2017 - Devam Ediyor
Ankara Üniversitesi, 2013 - Devam Ediyor

## Verdiği Dersler

Bitki Korumada Moleküler Yaklaşımlar , Lisans, 2023 - 2024
Entomology, Lisans, 2023 - 2024
Böcek Fizyolojisine Giriş, Yüksek Lisans, 2015 - 2016, 2014 - 2015
Bitki Koruma, Lisans, 2015 - 2016, 2013 - 2014
Böcek Morfolojisi, Lisans, 2015 - 2016, 2013 - 2014
Böcek Moleküler Genetiği, Yüksek Lisans, 2015 - 2016
Böcek Biyokimyası, Yüksek Lisans, 2015 - 2016
Bahçe Bitkileri Genel Zararlıları (Bahçe Bitkileri Bölümü), Lisans, 2015 - 2016
Entegre Savaşım Modelleri, Yüksek Lisans, 2015 - 2016
Bahçe Bitkileri Genel Zararlıları (Toprak Bilimi ve Bitki Besleme Bölümü), Lisans, 2015 - 2016
Böcek Moleküler Genetiği, Doktora, 2014 - 2015
Bahçe Bitkileri Genel Zararlıları, Lisans, 2014 - 2015
Böcek Fizyolojisine Giriş, Doktora, 2013 - 2014

## Yönetilen Tezler

TOPRAK U., Patates böceği, Leptinotarsa decemlineata (Coleoptera: Chrysomelidae)'da lipit metabolizmasında yer alan majör proteinlerin karakterizasyonu, Yüksek Lisans, G.GÜNEY(Öğrenci), 2019
TOPRAK U., Patates böceği, leptinotarsa decemlineata, (Coleoptera: Chrysomelidae)'nın larva döneminde peritrofik matriks proteinlerinin belirlenmesi, Yüksek Lisans, E.CANER(Öğrenci), 2017

## SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

I. **Biochemical and molecular analyses of insecticide resistance in greenhouse populations of Bemisia tabaci (Hemiptera: Aleyrodidae) in Türkiye**
Erdogan C., TOPRAK U., Gurkan M. O.
PHYTOPARASITICA, cilt.52, sa.2, 2024 (SCI-Expanded)

II. **Peritrophins are involved in the defense against Bacillus thuringiensis and nucleopolyhedrovirus formulations in Spodoptera littoralis (Lepidoptera: Noctuidae)**
Güney G., Cedden D., Hänniger S., Hegedus D. D., Heckel D. G., TOPRAK U.
Insect Biochemistry and Molecular Biology, cilt.166, 2024 (SCI-Expanded)

III. **Boron compounds are effective on Tribolium castaneum (Coleoptera: Tenebrionidae): Reduced lipogenesis and induced body weight loss**
Atay T., Ertürk S., ALKAN M., Kordali Ş., Yılmaz F., Barış A., Ghanbari S., Doğan C., TOPRAK U.
Archives of Insect Biochemistry and Physiology, cilt.115, sa.3, 2024 (SCI-Expanded)

IV. **Individual and combined effects of α-Pinene and a native diatomaceous earth product on control of stored product beetle pests**
Atay T., ALKAN M., Ertürk S., TOPRAK U.
Journal of Asia-Pacific Entomology, cilt.26, sa.4, 2023 (SCI-Expanded)

V. **Molecular mechanisms of resistance to spirodiclofen and spiromesifen in Tetranychus urticae**
İNAK E., Demirci B., Vandenhole M., SÖYLEMEZOĞLU G., Van Leeuwen T., TOPRAK U.
Crop Protection, cilt.172, 2023 (SCI-Expanded)

VI. **Emulsion oil in water formulation of methyl-eugenol increases its insecticidal activity against Cydia pomonella L. (Lepidoptera: Tortricidae)**
Alkan M., Özdem A., Yılmaz A., Yücel C., İnak E., Ertürk S., Toprak U.
Applied Entomology and Zoology, cilt.58, sa.2, ss.139-148, 2023 (SCI-Expanded)

VII. **Incidence of spiromesifen resistance and resistance mechanisms in Tetranychus urticae populations collected from strawberry production areas in Turkey**
İNAK E., Alpkent Y. N., Cobanoglu S., TOPRAK U., Van Leeuwen T.
CROP PROTECTION, cilt.160, 2022 (SCI-Expanded)

VIII. **Pirimicarb resistance and associated mechanisms in field-collected and selected populations of Neoseiulus californicus**
Albayrak T., Yorulmaz S., İNAK E., TOPRAK U., Van Leeuwen T.
Pesticide Biochemistry and Physiology, cilt.180, 2022 (SCI-Expanded)

IX. **Silencing of an ABC transporter, but not a cadherin, decreases the susceptibility of Colorado potato beetle larvae to Bacillus thuringiensis ssp. tenebrionis Cry3Aa toxin**
Guney G., Cedden D., Hanniger S., Heckel D. G., Coutu C., Hegedus D. D., AMUTKAN MUTLU D., SULUDERE Z., SEZEN K., GÜNEY E., et al.
ARCHIVES OF INSECT BIOCHEMISTRY AND PHYSIOLOGY, cilt.108, sa.2, 2021 (SCI-Expanded)

X. **A Comparative Perspective on Functionally-Related, Intracellular Calcium Channels: The Insect Ryanodine and Inositol 1,4,5-Trisphosphate Receptors**
TOPRAK U., Dogan C., Hegedus D.
BIOMOLECULES, cilt.11, sa.7, 2021 (SCI-Expanded)

XI. **From cellular biochemistry to systems physiology: New insights into insect lipid metabolism**
TOPRAK U., Musselman L. P.
INSECT BIOCHEMISTRY AND MOLECULAR BIOLOGY, cilt.133, 2021 (SCI-Expanded)

XII. **A look into Colorado potato beetle lipid metabolism through the lens of lipid storage droplet proteins**
Gueney G., TOPRAK U., Hegedus D. D., Bayram S., Coutu C., Bekkaoui D., Baldwin D., Heckel D. G., Haenniger S., Cedden D., et al.
INSECT BIOCHEMISTRY AND MOLECULAR BIOLOGY, cilt.133, 2021 (SCI-Expanded)

XIII. **Characterization of calcium signaling proteins from the fat body of the Colorado Potato Beetle, Leptinotarsa decemlineata (Coleoptera: Chrysomelidae): Implications for diapause and lipid metabolism**
Dogan C., Hanniger S., Heckel D. G., Coutu C., Hegedus D. D., Crubaugh L., Groves R. L., AMUTKAN MUTLU D., SULUDERE Z., Bayram S., et al.
INSECT BIOCHEMISTRY AND MOLECULAR BIOLOGY, cilt.133, 2021 (SCI-Expanded)

XIV. **Two calcium-binding chaperones from the fat body of the Colorado potato beetle, Leptinotarsa decemlineata (Coleoptera: Chrysomelidae) involved in diapause**
Dogan C., Haenniger S., Heckel D. G., Coutu C., Hegedus D. D., Crubaugh L., Groves R. L., Bayram S., TOPRAK U.
ARCHIVES OF INSECT BIOCHEMISTRY AND PHYSIOLOGY, cilt.106, sa.1, 2021 (SCI-Expanded)

XV. **Persistence of diatomaceous earth, SilicoSec (R) against three stored grain beetles**
Mortazavi H., TOPRAK U., EMEKCİ M., Bagci F., FERİZLİ A. G.
JOURNAL OF STORED PRODUCTS RESEARCH, cilt.89, 2020 (SCI-Expanded)

XVI. **The efficacy of different surface applications of wettable powder formulation of Detech (R) diatomaceous earth against the rice weevil, Sitophilus oryzae (L.) (Coleoptera: Curculionidae)**
Erturk S., ATAY T., TOPRAK U., Alkan M.
JOURNAL OF STORED PRODUCTS RESEARCH, cilt.89, 2020 (SCI-Expanded)

XVII. **Insecticidal efficacy of spinetoram against Sitophilus zeamais : Influence of dose, exposure interval and temperature**

Yilmaz T., TÜTÜNCÜ Ş., TOPRAK U., EMEKCİ M., FERİZLİ A. G.
JOURNAL OF STORED PRODUCTS RESEARCH, cilt.89, 2020 (SCI-Expanded)

XVIII. **A journey into the world of insect lipid metabolism**
TOPRAK U., Hegedus D., Dogan C., Guney G.
ARCHIVES OF INSECT BIOCHEMISTRY AND PHYSIOLOGY, cilt.104, sa.2, 2020 (SCI-Expanded)

XIX. **Molecular Insights into Insect Physiological Systems Preface**
TOPRAK U.
ARCHIVES OF INSECT BIOCHEMISTRY AND PHYSIOLOGY, cilt.104, sa.2, 2020 (SCI-Expanded)

XX. **The Role of Peptide Hormones in Insect Lipid Metabolism**
TOPRAK U.
FRONTIERS IN PHYSIOLOGY, cilt.11, 2020 (SCI-Expanded)

XXI. **Preface**
TOPRAK U., Wang P., Smagghe G.
JOURNAL OF INSECT PHYSIOLOGY, cilt.119, 2019 (SCI-Expanded)

XXII. **Role of the peritrophic matrix in insect-pathogen interactions**
Erlandson M. A., TOPRAK U., Hegedus D. D.
JOURNAL OF INSECT PHYSIOLOGY, cilt.117, 2019 (SCI-Expanded)

XXIII. **Peritrophic matrix formation**
Hegedus D. D., TOPRAK U., Erlandson M.
JOURNAL OF INSECT PHYSIOLOGY, cilt.117, 2019 (SCI-Expanded)

XXIV. **Identification of the Mamestra configurata (Lepidoptera: Noctuidae) peritrophic matrix proteins and enzymes involved in peritrophic matrix chitin metabolism**
TOPRAK U., Erlandson M., Baldwin D., Karcz S., Wan L., Coutu C., Gillott C., Hegedus D. D.
INSECT SCIENCE, cilt.23, sa.5, ss.656-674, 2016 (SCI-Expanded)

XXV. **Lepidopteran Peritrophic Matrix Composition, Function, and Formation**
Hegedus D. D., TOPRAK U., Erlandson M.
SHORT VIEWS ON INSECT GENOMICS AND PROTEOMICS, VOL 2: INSECT PROTEOMICS, cilt.4, ss.63-87, 2016 (SCI-Expanded)

XXVI. **Spatial and temporal synthesis of Mamestra configurata peritrophic matrix through a larval stadium**
TOPRAK U., Hegedus D. D., Baldwin D., Coutu C., Erlandson M.
INSECT BIOCHEMISTRY AND MOLECULAR BIOLOGY, cilt.54, ss.89-97, 2014 (SCI-Expanded)

XXVII. **Identification of a putative antifreeze protein gene that is highly expressed during preparation for winter in the sunn pest, Eurygaster maura**
GÜZ N., TOPRAK U., Dageri A., Gurkan M. O., Denlinger D. L.
JOURNAL OF INSECT PHYSIOLOGY, cilt.68, ss.30-35, 2014 (SCI-Expanded)

XXVIII. **Identification and coordinated expression of perilipin genes in the biological cycle of sunn pest, Eurygaster maura (Hemiptera: Scutelleridae): Implications for lipolysis and lipogenesis**
TOPRAK U., GÜZ N., Gurkan M. O., Hegedus D. D.
COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY B-BIOCHEMISTRY & MOLECULAR BIOLOGY, cilt.171, ss.1-11, 2014 (SCI-Expanded)

XXIX. **Development of an improved RNA interference vector system for Agrobacterium-mediated plant transformation**
TOPRAK U., Coutu C., Baldwin D., Erlandson M., Hegedus D.
TURKISH JOURNAL OF BIOLOGY, cilt.38, sa.1, ss.40-47, 2014 (SCI-Expanded)

XXX. **Per os feeding with antisera specific to peritrophic matrix proteins stimulates larval growth in Mamestra configurata Walker (Lepidoptera: Noctuidae)**
TOPRAK U., Baldwin D., Hegedus D. D., Erlandson M.
TURKIYE ENTOMOLOJI DERGISI-TURKISH JOURNAL OF ENTOMOLOGY, cilt.37, sa.2, ss.203-212, 2013 (SCI-Expanded)

XXXI. **In vitro and in vivo application of RNA interference for targeting genes involved in peritrophic matrix synthesis in a lepidopteran system**

TOPRAK U., Baldwin D., Erlandson M., Gillott C., Harris S., Hegedus D. D.
INSECT SCIENCE, cilt.20, sa.1, ss.92-100, 2013 (SCI-Expanded)

XXXII. **Concentration of sodium dodecyl sulfate used in occlusion body extraction affects Spodoptera littoralis nucleopolyhedrovirus biological activity**
Susurluk H., TOPRAK U., Gurkan M. O.
TURKISH JOURNAL OF BIOLOGY, cilt.37, sa.2, ss.171-175, 2013 (SCI-Expanded)

XXXIII. **Role of enhancin in Mamestra configurata nucleopolyhedrovirus virulence: selective degradation of host peritrophic matrix proteins**
TOPRAK U., Harris S., Baldwin D., Theilmann D., Gillott C., Hegedus D. D., Erlandson M. A.
JOURNAL OF GENERAL VIROLOGY, cilt.93, ss.744-753, 2012 (SCI-Expanded)

XXXIV. **RNA interference in Lepidoptera: An overview of successful and unsuccessful studies and implications for experimental design**
Terenius O., Papanicolaou A., Garbutt J. S., Eleftherianos I., Huvenne H., Kanginakudru S., Albrechtsen M., An C., Aymeric J., Barthel A., et al.
JOURNAL OF INSECT PHYSIOLOGY, cilt.57, sa.2, ss.231-245, 2011 (SCI-Expanded)

XXXV. **Expression patterns of genes encoding proteins with peritrophin A domains and protein localization in Mamestra configurata**
TOPRAK U., Baldwin D., Erlandson M., Gillott C., Harris S., Hegedus D. D.
JOURNAL OF INSECT PHYSIOLOGY, cilt.56, sa.12, ss.1711-1720, 2010 (SCI-Expanded)

XXXVI. **CHARACTERIZATION OF THE Mamestra configurata (LEPIDOPTERA: NOCTUIDAE) LARVAL MIDGUT PROTEASE COMPLEMENT AND ADAPTATION TO FEEDING ON ARTIFICIAL DIET, Brassica SPECIES, AND PROTEASE INHIBITOR**
Erlandson M. A., Hegedus D. D., Baldwin D., Noakes A., TOPRAK U.
ARCHIVES OF INSECT BIOCHEMISTRY AND PHYSIOLOGY, cilt.75, sa.2, ss.70-91, 2010 (SCI-Expanded)

XXXVII. **Insect intestinal mucins and serine proteases associated with the peritrophic matrix from feeding, starved and moulting Mamestra configurata larvae**
TOPRAK U., Baldwin D., Erlandson M., Gillott C., Hegedus D. D.
INSECT MOLECULAR BIOLOGY, cilt.19, sa.2, ss.163-175, 2010 (SCI-Expanded)

XXXVIII. **New Insights into Peritrophic Matrix Synthesis, Architecture, and Function**
Hegedus D., Erlandson M., Gillott C., TOPRAK U.
ANNUAL REVIEW OF ENTOMOLOGY, cilt.54, ss.285-302, 2009 (SCI-Expanded)

XXXIX. **A chitin deacetylase and putative insect intestinal lipases are components of the Mamestra configurata (Lepidoptera : Noctuidae) peritrophic matrix**
TOPRAK U., Baldwin D., Erlandson M., Gillott C., Hou X., Coutu C., Hegedus D. D.
INSECT MOLECULAR BIOLOGY, cilt.17, sa.5, ss.573-585, 2008 (SCI-Expanded)

XL. **Impact of a Turkish isolate and a plaque-purified variant of SpliNPV-B on larval stage development of Spodoptera littoralis (Lepidoptera : Noctuidae) Bosid**
TOPRAK U., Gurkan M. O., Bayram S.
PEST MANAGEMENT SCIENCE, cilt.63, sa.6, ss.564-568, 2007 (SCI-Expanded)

XLI. **Viral-enhancing activity of an optical brightener for Spodoptera littoralis (Lepidoptera : Noctuidae) nucleopolyhedrovirus**
TOPRAK U., Susurluk H., Oktay Gurkan M.
BIOCONTROL SCIENCE AND TECHNOLOGY, cilt.17, sa.4, ss.423-431, 2007 (SCI-Expanded)

XLII. **Comparative biological activities of a plaque-purified variant and a Turkish native isolate of SpliNPV-B against Spodoptera littoralis (Lepidoptera : Noctuidae)**
TOPRAK U., Bayram S., Gurkan O.
PEST MANAGEMENT SCIENCE, cilt.62, sa.1, ss.57-63, 2006 (SCI-Expanded)

XLIII. **Molecular identification of three entomopathogenic nematodes from Turkey by PCR-RFLP of the ITS regions**
Susurluk I., TOPRAK U.
PHYTOPARASITICA, cilt.34, sa.1, ss.17-20, 2006 (SCI-Expanded)

## Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar

I. **Alternations of detoxification enzymes of the baculovirus infected Spodoptera littoralis (Boisd) larvae**
ERDOĞAN T., GÜRKAN M. O., TOPRAK U.
43 th Annual Meeting of the Society for Invertebrate Pathology (SIP), Trabzon, Türkiye, 11 Temmuz 2010, ss.162

II. **Detoxification enzymes of Spodoptera littoralis Boisd. infected with a baculovirus**
ERDOĞAN T., GÜRKAN M. O., TOPRAK U.
40 th Annual Meeting of the Society for Invertebrate Pathology (SIP), Quebec, Kanada, 12 Ağustos 2007, ss.51

## Metrikler

Yayın: 45
Atıf (WoS): 1533
Atıf (Scopus): 1564
H-İndeks (WoS): 14
H-İndeks (Scopus): 14