Yasin TOPCU
https://yasin-topcu.github.io/

PERSONAL INFORMATION

Center for Applied Genetic Technologies (CAGT) 111 Riverbend Rd rm 124, Athens GA 30602, USA.

+1 (470) 328-2021

yasin.topcu@uga.edu

Gender: Male | Date of birth 01.01.1989 | Nationality Enter nationality/ Turkish (TC)

EDUCATION

PhD in Plant Breeding, Genetics and Genomics January 2017 - Dec 2021
University of Georgia, Institute of Plant Breeding, Genetics and Genomics
Advisor: Esther van der Knaap
University of Georgia
Institute of Plant Breeding, Genetics & Genomics
Center for Applied Genetic Technologies
111 Riverbend Rd, Athens GA 30602, USA
Thesis title: The Molecular and Genetic Basis of Blossom-End Rot and Chlorophyll Content in Tomato
Cumulative GPA: 3.65/4.00

Intensive English Program (IEP) Jun 2017- Dec 2017
The University of Alabama, English Language Institute
101 B.B. Comer Hall, Tuscaloosa AL, 35401
Completed degree: Level 6, which equivalents to B2/C1 English

Masters of Science (MScs) in Horticulture 09.15.2012-01.15.2015
Akdeniz University, Department of Horticulture
Advisor: Prof. Dr. Mustafa ERKAN
Akdeniz University, Department of Horticulture
Pinarbası, Akdeniz University, 07070 Konyaalti/Antalya, Turkey
Thesis title: The Effects of Different UV-B Irradiation Doses on Plant Growth, Antioxidant Compounds and Postharvest Quality of Broccolis
Cumulative GPA: 3.80/4.00

06.01.2010 - 08.25.2010 (Internship)
Kibbutz Elifaz, 77887 **Ayalot / ISRAEL** (BEN GURION University + AIES)
2 students out of 240 were selected from Akdeniz University, Department of Horticulture. During this internship, we helped the farm management such as fruit harvesting, data collecting, field experiments etc.

Bachelor of Science (B.S.) in Horticulture 09.17.2007- 06.08.2012
Akdeniz University, Department of Horticulture
Pinarbası, Akdeniz University, 07070 Konyaalti/Antalya, Turkey
Cumulative GPA: 3.49/4 (Highest GPA in the department)

RESEARCH EXPERIENCE

Postdoctoral Research Associate, Center for Applied Genetic Technologies, University of Georgia
January 2022- Present
Supervisor: Dr. Esther van der Knaap

- QTL Fine Mapping and Identification of Candidate Genes for Blossom-End Rot in Tomato (*Solanum lycopersicum* L.)
- Structural variation underlies functional diversity at methyl salicylate loci in tomato.
- Identification and fine mapping of novel loci *fw6.1* and *fw6.2* underlying fruit weight in tomato.
- Identification and fine mapping of novel loci *SOV2* and *fs8.1* underlying fruit shape in

tomato.

- Genome-wide association mapping for volatiles contributing to flavor

Graduate Research Assistant, Institute of Plant Breeding, Genetics, and Genomics, University of Georgia
August 2020- January 2022
Supervisor: Dr. Esther van der Knaap

- Identification of Blossom-End Rot Loci Using Joint QTL-Seq and Linkage-Based QTL Mapping in Tomato
- Finemapping of *BER4.1* and *BER11.1* QTLs
- Identification and Fine Mapping of *CCI4.1* Controlling Chlorophyll B Content and Leaf Cell Size in Tomato

These works resulted in two publications. Two manuscripts are being written. These works were funded through USDA AFRI grant 2020-67013-3091, The Genetic and Developmental Basis of Blossom-End Rot in Tomato

Summer Internship, Kibbutz Elifaz Eilat, South District, Israel
Jun 2010 - Aug 2010 ·
Eilat, South District, Israel · On-site
As to my first invaluable experience, I was granted a scholarship which was supplied by the Israeli Government to pursue summer practice for two months in Israel deserts. The application process was very challenging and only two applicatints were selected from Akdeniz University in 2010.
I helped the Kibbutz community to harvest Medjool Dates. I also helped for setting up irrigation system for the date and pomelo orchards. I also gain some expreience in setting up a fertilization schme for the farm.

RESEARCH GRANT

Contributions to Funded Research

Title: The Genetic and Developmental Basis of Blossom-End Rot in Tomato (Jun 1, 2020 - May 31, 2023)
Project Directors: Dr. Savithri Nambeesan and Esther van der Knaap, PhD, University of Georgia
Funding Source: AFRI Competitive Grant, grant no:2020-67013-3091.

Role: Co-author; My work on molecular and genetic aspect of the Blossom-end rot was the basis for this grant. I provided preliminary data, developed aims, timeline and helped with writing the grant.

We also recently submitted a renewal request for the ongoing project.

FELLOWSHIPS

- **The John Ingle Innovation in Plant Breeding Award, Aug 2019,** Issued by Institute of Plant Breeding, Genetics and Genomics. I won the John Ingle Innovation in Plant Breeding Award on August 15, 2019. Project title "The Molecular and Genetic Basis of Blossom-end Rot in Tomato"
- **YLSY International Graduate Education Scholarship, Jul 2015**
  YLSY International Graduate Education Scholarship Issued by Ministry of National Education (Turkey) · Jul 2015Issued by Ministry of National Education (Turkey) This Ph.D. Scholarship was funded by the Turkish Government to pursue a course of study at an institution leading to a Ph.D. degree in the field of "Vegetable Breeding."
- **MSc scholarships issued by European Cooperation in Science & Technology 2012-2015**
  I received two scholarships funded and sponsored by European cooperation in science & Technology Scholarship.
  - First Project title: The Effects of Ozone and Different Packaging Systems on Postharvest Quality of 0900 Ziraat Cherries for Increasing Cherry Export
  - The Effects of Different UV-B Illuminations on Plant Growth, Nutrient Content and Postharvest Quality of Broccoli

HONORS & AWARDS

- 2nd place, 2018 IPBGG Poster Award winner in Ph.D./Postdoc category at the IPBGG annual retreat, Callaway Gardens, May 10-11, 2018.
- European Cooperation in Science & Technology Travel Award 2014.
  Received a travel grant to attend a training school in Helsinki Finland. Workshop title: Using R in UV Photobiology Research Sponsored by European cooperation in science & Technology)
- Valedictorian Award: Issued by Akdeniz University, Faculty of Agriculture, Department of Horticulture · Jun 2012

SUPERVISED UNDERGRADUATE PROJECTS

Sophie Smith Caillault, sophie.caillault@uga.edu PBIO 4960R Undergraduate Independent Research Support Award 2023. Project title: QTL finemappinf of *SOV2* locus in tomato

Katie Elizabeth Toomey, katie.toomey@uga.edu UGA Research and Extension Experience for Undergraduates Summer Intern 2022. Project title:Finemapping of a Chlorophyll Content Locus in Tomato ((*Solanum lycopersicum* L.)

PUBLICATIONS

TOPCU, Y., SAPKOTA, M., ILLA-BERENGUER, E., NAMBEESAN, US., and van der KNAAP, E. (2021) Identification of blossom-end rot loci using joint QTL-seq and linkage-based QTL mapping in tomato. *Theor Appl Genet 134, 2931–2945.* https://doi.org/10.1007/s00122-021-03869-0

TOPCU, Y., DOGAN, A., SAHIN-NADEEM, H., KASIMOGLU, Z., POLAT, E., & ERKAN, M. (2018). Morphological and biochemical responses of broccoli florets to supplemental ultraviolet-B illumination. *Agriculture, Ecosystems & Environment 259 (2018): 1-10.* https://doi.org/10.1016/j.agee.2018.02.027

DOGAN, A., **TOPCU, Y.,** & ERKAN, M. (2016). UV-C illumination maintains postharvest quality of minimally processed broccoli florets under modified atmosphere packaging. In VIII International Postharvest Symposium: Enhancing Supply Chain and Consumer Benefits-Ethical and Technological Issues 1194 (pp. 537-544).
http://dx.doi.org/10.17660/ActaHortic.2018.1194.78

TOPCU, Y., DOGAN, A., KASIMOGLU, Z., SAHIN-NADEEM, H., POLAT, E., & ERKAN, M. (2015). The effects of UV radiation during the vegetative period on antioxidant compounds and postharvest quality of broccoli (*Brassica oleracea* L.). *Plant Physiology and Biochemistry 93 (2015): 56-65. https://doi.org/10.1016/j.plaphy.2015.02.016*

DOGAN, A., **TOPCU, Y.,** ERKAN, M., SELCUK, N. (2015)**.** During Pre-Cooling, the impact of different ozone dosages and packing applications on '0900 Ziraat' Cherry varieties storage. VII. National Horticultural Congress. Canakkale/TURKEY.

DOGAN, A., **TOPCU, Y.,** ERKAN, M. (2015). The effects of controlled atmosphere and 1-MCP combinations on fruit quality and storage of kiwi fruit Hayward variety. II. Middle of Anatolia Region, Agriculture and Food Congress. Nevsehir/ TURKEY.

Submitted Manuscripts:
SAPKOTA, M., PEREIRA, L., WANG, Y., ZHANG, L., **TOPCU, Y.,** TIEMAN, D. and van der KNAAP, E., 2022. Structural variation underlies functional diversity at methyl salicylate loci in tomato. PLOS Genetics, Under review

ORAL PRENSATIONS

TOPCU, Y., FLEMING, Z., and van der KNAAP, E. (2023) QTL Fine Mapping and Identification of Candidate Genes for Blossom-End Rot in Tomato (*Solanum lycopersicum* L.). Plant and Animal Genome Conference XXX, January 15, 2023, San Diego, CA.

TOPCU, Y., ILLA-BERENGUER, E., NAMBEESAN, S., and van der KNAAP, E. (2020) The Molecular

and Genetic Basis of Blossom-end Rot in Tomato. Institute of Plant Breeding, Genetics & Genomics ▪ Virtual Retreat 2020.

TOPCU, Y., ILLA-BERENGUER, E., NAMBEESAN, S., and van der KNAAP, E. (2020) The Molecular and Genetic Basis of Blossom-end Rot in Tomato. Institute of Plant Breeding, Genetics & Genomics ▪ PFG Seminar Series 2018, Athens, GA.

TOPCU, Y., DOGAN, ERKAN, M. (2014). Comparison of the Spineless and Spined Cactus Fruit Storaged in Pallistore in Terms of Storage. VI. Storage and Marketing Symposium in Horticultural Products. Bursa/TURKEY.

ERKAN, M., and **TOPCU, Y. (2014).** The effects of different UV-B irradiations on plant growth, antioxidant compounds and postharvest quality of broccoli florets. Abstracts of the Final Network Meeting of COST Action FA0906 UV4growth. Bled, SLOVENIA.

CONFERENCE POSTER PRENSATIONS

TOPCU, Y., FLEMING, Z., and van der KNAAP, E. (2023) QTL Fine Mapping and Identification of Candidate Genes for Blossom-End Rot in Tomato (*Solanum lycopersicum* L.). Plant and Animal Genome Conference XXX, January 15, 2023, San Diego, CA.

TOPCU, Y., FLEMING, Z., and van der KNAAP, E. (2022) Finemapping of *BER4.1* and *BER11.1* loci associated with Blossom-end rot in tomato. 2022 IPBGG Retreat Poster Competition, Jekyll Island, GA, May 2022

TOPCU, Y., FLEMING, Z., and van der KNAAP, E. (2022) QTL fine mapping and identification of candidate genes for Blossom-end rot trait in tomato (*Solanum lycopersicum* L.). CROPS 2022, Huntsville, Alabama, May 2022.

TOPCU, Y., ILLA-BERENGUER, E., NAMBEESAN, S., and van der KNAAP, E. (2020) The Molecular and Genetic Basis of Blossom-End Rot in Tomato. 2020 SOL International Online Meeting. (Virtual Poster presentation)

TOPCU, Y., ILLA-BERENGUER, E., NAMBEESAN, S., and van der KNAAP, E. (2020) The Molecular and Genetic Basis of Blossom-End Rot in Tomato. 2020 Plant Biology Worldwide Submit 2020. (Virtual Poster presentation)

TOPCU, Y., ILLA-BERENGUER, E., and van der KNAAP, E. (2019) The Molecular and Genetic Basis of Blossom-end Rot in Tomato. Institute of Plant Breeding, Genetics & Genomics ▪ Retreat 2019. Dawsonville, GA.

TOPCU, Y., ILLA-BERENGUER, E., and van der KNAAP, E. (2018) The Molecular and Genetic Basis of Blossom-end Rot in Tomato. The Plant Center University of Georgia ▪ 2018 Fall Retreat. Helen, GA.

TOPCU, Y., ILLA-BERENGUER, E., and van der KNAAP, E. (2018) The Molecular and Genetic Basis of Blossom-end Rot in Tomato. Institute of Plant Breeding, Genetics & Genomics ▪ Retreat 2018. Pine Mountain, GA,

TOPCU, Y., ILLA-BERENGUER, E., KABIR M. Y., NAMBEESAN, S., and van der KNAAP, E. (2017) The Molecular and Genetic Basis of Blossom-end Rot in Tomato. The Plant Center University of Georgia ▪ 2017 Fall Retreat. Helen, GA.

TOPCU, Y., ILLA-BERENGUER, E., KABIR M. Y., NAMBEESAN, S., and van der KNAAP, E. (2017) Genetic Basis of Blossom-end Rot in Tomato. CROPS 2017. Huntsville, AL.

TOPCU, Y., ILLA-BERENGUER, E., KABIR M. Y., NAMBEESAN, S., and van der KNAAP, E. (2017) Genetic Basis of Blossom-end Rot and Yellow Shoulder Disorder in Tomato. Institute of Plant Breeding, Genetics & Genomics ▪ Retreat 2017. Cordele, GA,

EXTRACURRICULAR ACTIVITES

Nov 2023 – Present Finance and Event Coordinator.

- Organize social and cultural events for Turkish Community in Athens, GA

Nov 2019 - Nov 2022 Turkish Student Association at UGA, President

- Assist new Turkish students attending UGA to settle in Athens, GA

10.23.2013-10.25.2013 Organizing committee: 6th European Short-Courses on Fresh-Cut Produce Nutritional Quality & Health Benefits Processing: Akdeniz University (TURKEY) & Foggia University (ITALY)

COMPUTATIONAL SKILLS

Linux shell script programming and several Bioinformatics analyses

- Bulk segregant and QTL-seq analysis
- RNA-seq, differential expression, and GO term analysis.
- Genetic map construction and QTL mapping
- Genome-wide Association Study (GWAS)
- Genotyping by Sequencing (GBS)
- Genetic diversity and haplotype analysis
- Big data and whole genome sequencing analysis

Bioinformatic tools: NCBI/Blast, IGV, Jbrowse2, Tomato Analyzer, ImageJ
Graphic designing: Adobe Illustrator and Photoshop
Programming: R, bash
Gas Chromatography chromatograms analysis
Proficient in using Microsoft Office package (Word, Excel and PowerPoint)

MOLECULAR SKILLS

Marker assisted selection and assays.
Developing and using molecular markers (CAPS, dCAPS, KASP)
PCR, RT-qPCR, KASP-PCR
DNA and RNA extraction using w/wo kits.
Gene editing and cloning
CRIPSR/Cas9 gRNA designing.
Plasmid preparation, transformation, and cloning
Microscopy, imaging, and image analysis

HOBBIES

Travelling, kayaking, playing soccer and video games
I also like playing chess, and board games with friends.