



**TAGEM**  
R&D AND INNOVATION

PLANT PROTECTION CENTRAL RESEARCH  
INSTITUTE / ANKARA

## OKRAY OREL, Ph.D. Agricultural Engineer

### EDUCATION

- Ph.D.** 2010-2016 Ankara University  
Agricultural Machinery
  - M.S.** 2007-2010 Ankara University  
Agricultural Machinery
  - B.S.** 2003-2007 Ankara University  
Faculty of Agriculture / Agr. Machinery
- LANGUAGE  
SPOKEN** English - YÖKDİL 81,25 / ÜDS 80

### CAREER


- 2019- Engineer  
Plant Protection Central Research Institute - ANKARA
- 2016-2019 Phd. Researcher  
Ankara University, Faculty of Agriculture - ANKARA
- 2014-2015 Research Fellow  
Cornell University, NYSAES, Geneva, NY – U.S.A.
- 2008-2016 Researcher  
Ankara University, Faculty of Agriculture - ANKARA


### ABOUT ME


He was born in Ankara in 1983. He graduated from Ankara University Faculty of Agriculture in 2002. He became an Agricultural Engineer in 2007; He completed his PhD in 2016.

During the thesis phase of her doctoral study, he worked as a "Research Fellow" at Cornell University New York State Agricultural Experiment Station (NYSAES) - Geneva, New York between 2014-2015 and conducted studies.

### CONTACT

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# OKRAY OREL, Ph.D.

## Agricultural Engineer



### ▪ **PROJECTS**

#### ▪ **Ongoing Projects**

1. 2022 – 2025 Developing an Unmanned Aerial Vehicle (UAV) with Intelligent Flight Systems in Precision Agriculture and a Sprayer with Variable Ratio Spraying and Minimum Drift (DRIFT) Effect with an Anti-Shrinking Tank that Can Be Installed on the UAV  
**TAGEM AR-GE (Researcher)**
2. 2022 – 2025 Unmanned Small Scale Agricultural Spraying Helicopter (TARKOPTER)  
**TAGEM AR-GE (researcher)**
3. 2021 – 2024 Design of a Multi-Nozzle Knapsack Sprayer with a Trolley System  
**TAGEM (Project Leader)**
4. 2021 – 2024 Enhancing Practical Skills of Horticulture Specialists to Better Address the Demands of the European Green Deal  
**AB ERASMUS+ (Researcher)**

#### ▪ **Completed Projects**

1. 2019 – 2022 Possibilities of Implementation of Pesticide Applications with Unmanned Aerial Vehicles  
**TAGEM Public – Private Sector Projects (Researcher)**
2. 2018 – 2021 Prevention of Water Contamination from Point Sources with Plant Protection Products by Improving Extension Specialists Vocational Competences – PROTECTLIFE  
**AB ERASMUS+ (Researcher)**
3. 2017 – 2019 Mobile Hybrid Milker  
**TAGEM AR-GE (Researcher)**
4. 2015 – 2016 Determination and Improvement of Raw Milk Quality at Ankara University Faculty of Agriculture Haymana Research and Application Farm  
**BAP – Ankara University (Researcher)**
5. 2007 – 2010 Safer Agriculture for Employees in Rural – SAFER  
**AB ERASMUS+ (Researcher)**



## OKRAY OREL, Ph.D. Agricultural Engineer



### ▪ **PUBLICATIONS**

#### ▪ **INTERNATIONAL ARTICLES and PAPERS**

##### ▪ **Articles Published in International Journals.**

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##### ▪ **International Papers and Seminars etc.**

1. EMİNOĞLU, M.B., BEYAZ, A., **OREL, O.**, ÖZTÜRK, G., ÖZTÜRK, R. and ACAR, A.İ., 2010. Comparison of Tractor-Rotary Tiller Combination and Power Tiller in Terms of Energy Expenditure of Operators. XVII. World Congress of the International Commission of Agricultural Engineering (CIGR), 1317 June 2010, Quebec, Canada.
2. AYDAR, A., SABAHOĞLU, Y., **OREL, O.**, CICEOI, R., DORUCHOWSKI, G. and SZEKAS, A. 2019. Prevention of Water Contamination from Point Sources with Plant Protection Products by Improving Extension Specialists' Vocational Competences. Sprayer Cleaning Workshop, 2-3 October 2019, Oberbozen, Italy. Aspects of Applied Biology 143 p:63-73.

#### ▪ **NATIONAL ARTICLES and PAPERS**

##### ▪ **Articles Published in National Journals**

1. YEGÜL, U., **OREL, O.**, EMİNOĞLU, M.B., VATANDAŞ, M., 2019. Estimation of Pump Speed Using the Parameters of the Electric Motor. Journal of Tekirdağ Agricultural Faculty 16 (2) p:156-162.
2. YEGÜL, U., EMİNOĞLU, M.B., **OREL, O.**, and ÇOLAK, A., 2014. Determination of Equivalent Stress and Total Deformation in Different Types of Harrows. Journal of Agricultural Machinery Science, 10(1) p:65-71.
3. EMİNOĞLU, M.B., **OREL, O.**, ÖZTÜRK, R. and ACAR, A.İ., 2011. Comparison of Operators' Physical Responses Working with Two Different Machinery Combination During Hoeing Operation. Journal of Agricultural Machinery Science, 7(2) p:127-131.

##### ▪ **National Papers and Seminars etc.**

1. VELİOĞLU, H., **OREL, O.**, SİLLELİ, H., ACAR, A.İ. and ÖZTÜRK, R., 2011. Evaluation of an Agricultural Tractor in Terms of Machinery Safety Regulation. 17. National Ergonomics Congress Proceedings, p:741-751, 14-16 October 2011, Eskişehir.
2. GÖLBAŞI, M., **OREL, O.**, ACAR, A.İ. and ÖZTÜRK, R., 2010. Evaluation of Occupational Accidents in the Agriculture Sector. 16. National Ergonomics Congress, 03-05 December 2010, Çorum.
3. EMİNOĞLU, M.B., BEYAZ, A., **OREL, O.**, ÖZTÜRK, R. and ACAR, A.İ., 2010. Comparison of Physical Loading of Operators Working with Hoe Machine and Tractor- Soil Mill. 16. National Ergonomics Congress, 03-05 December 2010, Çorum.



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4. **OREL, O.**, GÖLBAŞI, M., ACAR, A.İ. and ÖZTÜRK, R., 2009. Occupational Health and Safety in Agriculture 15. National Ergonomics Congress Proceedings, p:413-423, 20-24 October 2010, Konya.
5. EMİNOĞLU, M.B., SÖNMEZ, N., **OREL, O.**, ÖZTÜRK, R. and ACAR, A.İ., 2009. Changes in Energy Consumption Values During the Day in Hoeing of Orchards with a Hoe Machine. 15. National Ergonomics Congress Proceedings, p:379-387, 20-24 October 2010, Konya.

▪ **OTHER PUBLICATIONS**

▪ **Ph.D. Thesis, Master Thesis, Reports, Books etc.**

1. **OREL, O.** and ACAR, A.İ., 2012. Design of a Uniformly Shaped Punch Opening Mechanism in Seedling Planting. The Journal of Agricultural Sciences, 8(1) s:61-68. (MSc. Thesis)



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▪ **MEMBERSHIP, TRAINING, COURSE, MEETING, CONGRESS, SYMPOSIUMS and OTHER ACTIVITIES**

▪ **Scientific Activities**

1. Workshop on Current Situation, Control and Possible Risks of Important Invasive Insect Species in Turkey  
21.12.2021 – **Organization Committee Member**
2. Workshop on New Approaches in the Control of Soil-Originated Pathogens with International Participation  
15.12.2021 – **Organization Committee Member**
3. Workshop on Preventing Water Pollution from Plant Protection Products  
25.11.2020 – **Organization Committee Member**
4. 20. National Ergonomics Congress  
26.09.2014 – **Organization Committee Member**

▪ **Membership of Scientific and Vocational Organizations**

1. TMMOB Chamber of Agricultural Engineers