



TAGEM
R&D AND INNOVATION

BLACK SEA AGRICULTURAL RESEARCH
INSTITUTE / SAMSUN

DR. MEHMET TAŞAN

Agricultural Engineer (PhD)

EDUCATION

Assoc. Prof

PhD Ondokuz Mayıs University
2007-2017 G. School of Natural and Applied Sc.

MSc Ondokuz Mayıs University
2004-2006 G. School of Natural and Applied Sc. Agricultural Structures and Irrigation Dept.

Bachelor's Degree Ondokuz Mayıs University
1996-2002 Faculty of Agriculture, Department of Agricultural Structures and Irrigation

LANGUAGE English (UDS: 71.25 YOKDIL: 80.00)

CAREER

2013- - Researcher – Black Sea Agricultural Research Institute - SAMSUN

2004-2013- Research Assistant - Ondokuz Mayıs University, Graduate School of Natural and Applied Sciences - SAMSUN

ABOUT ME

I was born in Havza in 1978. I graduated from Ondokuz Mayıs University, Faculty of Agriculture, Agricultural Technology Program, Department of Agricultural Structures and Irrigation in 2003. In 2006, I completed my master's degree in Ondokuz Mayıs University, Graduate School of Natural and Applied Sciences, Department of Agricultural Structures and Irrigation. I worked as a Research Assistant at Ondokuz Mayıs University, Agricultural Faculty, Department of Agricultural Structures and Irrigation between 2004-2013.

I have been working in the Black Sea Agricultural Research Institute, Soil and Water Resources Department, Agricultural Irrigation and Land Reclamation unit since 2013.

CONTACT

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DR. MEHMET TAŞAN

Agricultural Engineer (PhD)



▪ **PROJECTS**

▪ **Projects Conducted**

1. Determination Of Tomato Cropwater Consumption in Samsun Conditions- OMÜ BAP - Yardımcı Araştırmacı (2006, Sonuçlandı), Assistant Researcher.
2. Evaluation of Canopy Temperature of Dry Bean in Irrigation Water Management- BAP- Assistant Researcher (2008-2010, Concluded).
3. Estimation of Evapotranspiration And Crop Coefficient of Red Pepper Based on Soil Water Balance and Energy Balance under Drip İrrigation Conditions - TAGEM - Assistant Researcher (2010-2012).
4. Bafra, Altinkaya Irrigation Association Irrigation Network Area Current Water Use and Optimum Water Use Planning- OMU BAP-2011. Assistant researcher.
5. Use of Micro Water Harvesting Technique in Watermelon and Melon Production in the Central Black Sea Region-TAGEM-(2014- concluded), Assistant Researcher.
6. Determination of the Effects of Deep Well Irrigation on Soil and Water Resources in the Coastal Rice Paddy Fields of Alaçam District of Samsun Province by Different Interpolation Methods-TÜBİTAK-1002 (2015-2016.), Assistant Researcher
7. Using Artificial Intelligence Applications in Determining Irrigation Programming of Eggplant Plant-TÜBİTAK-(2014-2017.), Assistant Researcher
8. Determination of Drought Resistance Levels of Bean Lines Suitable for Fresh Consumption and Investigation of Defense Mechanisms Developed in Drought Stress –TÜBİTAK 3001-(2017-2018.), Assistant Researcher
9. Black Sea Region Dwarf-Dwarf Cherry Rootstock Breeding- TÜBİTAK 1003 (2016-2020), Assistant Researcher
10. Determination of Important Physical and Chemical Properties of Soils Where Different Plants Grow in terms of Irrigation and Drainage and Estimation with Artificial Intelligence Techniques: The Right Bank Example of Bafra Plain-TÜBİTAK 1001 (2017-2019), Assistant Researcher
11. A New Three-Dimensional Approach in Irrigation Programming and Yield Prediction with Sensors and Handheld Radiometers Connected to Unmanned Aerial Vehicles: Theory, Practice and Verification-TÜBİTAK-1001, (2019-2022), Assistant Researcher
12. Determination of Technical and Economic Performance of Drip Irrigation Systems in Bafra Plain- TAGEM (2018 concluded), Assistant Researcher
13. Investigation of the Use of Drip Irrigation Systems in Rice in Bafra Plain Conditions (TAGEM- 2019-2021), Project Leader.



DR. MEHMET TAŞAN

Agricultural Engineer (PhD)



▪ Ongoing Projects

1. Determination of the Effect of Complementary Irrigation on Yield and Quality Parameters in Hazelnut in Giresun and Samsun Conditions-TAGEM (2018-ongoing), Assistant Researcher.
2. Determination of the Most Appropriate Irrigation Program for Peach Farming in Çarşamba Plain – TAGEM (2018- ongoing), Assistant Researcher.
3. Determination of the Most Appropriate Periodic Restricted Irrigation Program for Pear Cultivation in Çarşamba Plain – TAGEM (2021- ongoing), Assistant Researcher.
4. MEDWATERICE: Towards a sustainable water use in Mediterranean rice-based agro-ecosystems-PRIMA (TÜBİTAK)- (2019-ongoing) Assistant Researcher.
5. Development of Flax, Hemp and Stinging Nettle Reinforced Polymeric Composite Materials from Black Sea Fiber Plants For Use in Irrigation System Materials and Drainage Panels, TAGEM R&D project (2021- ongoing), Assistant Researcher.
6. Development of Digital Irrigation Management System for Wheat and Soybean Crops Grown in Bafra Plain Conditions (DIMS) TAGEM (2021- ongoing), Project Leader.

▪ PUBLICATIONS

▪ INTERNATIONAL ARTICLES AND PAPERS

▪ Articles Published in International Journals

1. Taşan, S., Cemek, B., Taşan, M., Cantürk, A. 2022. Estimation of eggplant yield with machine learning methods using spectral vegetation indices. *Computers and Electronics in Agriculture*, 202, 107367. <https://doi.org/10.1016/j.compag.2022.107367>
2. Taşan, M., Taşan, S., Demir, Y. 2022. Estimation and uncertainty analysis of groundwater quality parameters in a coastal aquifer under seawater intrusion: a comparative study of deep learning and classic machine learning methods. *Environmental Science and Pollution Research*, 1-25. <https://doi.org/10.1007/s11356-022-22375-4>
3. Taşan, M., Demir, Y., Taşan, S. 2022. Groundwater quality assessment using principal component analysis and hierarchical cluster analysis in Alaçam, Turkey. *Water Supply*, 22(3), 3431-3447.
4. Köksal, E.S., Erdem, C., Taşan, M., Temizel, K.E., 2021. Developing new hyperspectral vegetation indexes sensitive to yield and evapotranspiration of dry beans. *Turk J Agric For.*, 45: 743-749.
5. Köksal, E.S., Artık, C., Taşan, M., 2019. Crop Evapotranspiration Estimations of Red Pepper Using Field Level Remote Sensing Data and Energy Balance. *Polish Journal of Environmental Studies*, 28 (1): 165-175.
6. Köksal, E.S., Taşan, M., Artık, C., Gowda, P., 2017. Evaluation of financial efficiency of drip-irrigation of red pepper based on evapotranspiration calculated using an iterative soil water-budget approach, *Scientia Horticulturae*, 226: 398-405.
7. Arslan, H., Tasan, M., Yildirim, D., Koksak, E. S., Cemek, B. 2014. Predicting field capacity, wilting point, and the other physical properties of soils using hyperspectral reflectance spectroscopy: two different statistical approaches. *Environmental monitoring and assessment*, 186(8), 5077-5088.
8. Köksal, E. S., Cemek, B., Artık, C., Temizel, K. E., Taşan, M., 2011. A new approach for neutron moisture meter calibration: artificial neural network. *Irrigation Science*: 29(5):369-377.



DR. MEHMET TAŞAN

Agricultural Engineer (PhD)



International Papers, Seminars, etc.

1. Köksal, E. S., Artık, C., Taşan, M., Gowda, P., Howell, T. A., 2012. Evaluation of Metric for Estimating Evapotranspiration of Red Pepper under a Sub-Humid Climate in Northern Turkey, Vision for a Sustainable Planet - ASA, CSSA, and SSSA International Annual Meetings. October 21-24, 2012 - Cincinnati, Ohio.
2. Yıldırım, D., Cemek, B., Unlukara, A., Atiş, A., Taşan, M., 2015. Evaluation of Soil Moisture Content with Different Interpolation Methods 4th International Participation Soil and Water Resources Congress Proceedings Book Abstract Syf:54-55 1-4 Sept. 2015
3. Atiş, A., B. Cemek, M. Taşan, S. Safi. 2015. Determination of Evapotranspiration with Deterministic Models for Samsun. 2nd International Conference on Sustainable Agriculture and Environment (2nd ICSAE), vol:1, p: 296-304. Selcuk University Campus, Konya, Turkey.
4. Taşan, M., Taşan, S., Demir, Y., Arslan, H., 2018. Evaluation of Groundwater Boron Content with Different Interpolation Methods, International Water and Environment Congress, SUCEV2018 Proceeding Book Page: 934-942, 22-24 Mart 2018, Bursa.
5. Taşan, M., Demir, Y., Taşan, S., Arslan, H., Cemek, B., 2022. Prediction of Groundwater Quality Parameters Using Machine Learning Algorithms in Alaçam District Coastal Regions, Proceedings of International Congress and Workshop on Agricultural Structures and Irrigation, 12-15 May, 2022, Diyarbakır, Türkiye,
6. Taşan, S., Cemek, B., Taşan, M., Cantürk, A., 2022. Estimation of Daily Minimum, Maximum and Mean Temperature by Five Machine Learning Algorithms, Proceedings of International Congress and Workshop on Agricultural Structures and Irrigation, 12-15 May, 2022, Diyarbakır, Türkiye,
7. Taşan, S., Demir, Y., Taşan, M., Arslan, H., 2022. Applications of Kriging and Cokriging in the Spatial Estimation of the Groundwater Level in the Irrigation Soils of Bafra Plain, Türkiye, Proceedings of International Congress and Workshop on Agricultural Structures and Irrigation, 12-15 May, 2022, Diyarbakır, Türkiye,
8. The Importance of Evapotranspiration in Irrigation Projects, Determination Methods and Its Use in Irrigation Application (Master Seminar, OMÜ, 2005.)
9. Planning Optimum Water and Land Use in Irrigation Networks (PhD Seminar, OMÜ, 2008)

NATIONAL ARTICLES AND PAPERS

Articles Published in National Journals

1. Taşan, M., Demir, Y. 2017. Determination of spatial distribution of iron and manganese contents with different interpolation methods at rice cultivated areas. Anadolu Journal of Agricultural Sciences, 32(1), 64-73.
2. Cemek, B., Kara, T., Apan, M., Taşan, M. 2004. Comparative Study On Evaporation Values Obtained From Class A And Small-Scale Evaporation Pans In Greenhouse, Journal of Agricultural Faculty of Bursa Uludağ University, 18(2): 13-24.

National Papers, Seminars, etc.

1. Taşan, M., Kara, T., 2011. Model Approach in Detection of Groundwater Sourced Salinity and Solving the Problem. II. National Soil and Water Resources Congress. Volume 2, pp. 1033-1039. Ankara.
2. Taşan M., Kara T., 2010. Planning Optimum Water and Land Use in Irrigation Networks. I. National Irrigation and Agricultural Structures Symposium. p.837-846. Kahramanmaraş.



DR. MEHMET TAŞAN
Agricultural Engineer (PhD)



3. Kara T., Taşan M., 2012. Change of Yield and Yield Parameters of Alfalfa (*Medicago sativa* L.) According to Groundwater Level. II. National Irrigation and Agricultural Structures Symposium. Izmir.4. Cemek, B., Taşan, M., Yıldırım, D., 2011. Sera İçin Bitki Su Tüketimi Modellerinin Değerlendirilmesi. II. Ulusal Toprak ve Su Kaynakları Kongresi. Cilt 2, S. 825-831. Ankara.
4. Cemek, B., Taşan, M., Yıldırım, D., 2011. Evaluation of Plant Water Consumption Models for Greenhouses. II. National Soil and Water Resources Congress. Volume 2, pp. 825-831. Ankara.
5. Köksal, E. S., Taşan, M., Now, C., 2014. An Approach Based on Wetted Area Ratio and Cover Percentage in Calculation of Soil Water Budget under Drip Irrigation Conditions: Pepper Paste Application. 12th Kulturtechnique Symposium 21-23 May 2014, Tekirdag.
6. Taşan, M., Çetin, S., Köksal, E. S., 2014. Irrigation Water Requirements of Hazelnut(*Corylus avellana* L.) 12. Kulturtechnique Symposium, 21-23 Mayıs 2014. Cilt:1 Syf:134-139.
7. Çetin, S., Köksal, E.S., Tunca, E., Çoban, U., Ekiz, N. M., Taşan, M., 2016. Evaluation of daily short and long wavelength net radiation changes of wheat, barley, corn, sugar beet and onion , 13. National Kulturtechnique Congress, 12-15 April 2016, Antalya-318-325p.

▪ **OTHER PUBLICATIONS**

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

1. The Relationship Between A-Class Evaporation Pan and Small Evaporation Vessels in Greenhouse Conditions (BSc Thesis, OMÜ, 2003)
2. Determination of Tomato Evapotranspiration in Samsun Conditions, Ondokuz Mayıs Univ. Graduate School of Natural and Applied Sciences, Department of Agricultural Structures and Irrigation, Master Thesis, 2006. Thesis No: 185807, Samsun.
3. Evaluation of Effects of Groundwater Usage in Irrigation of Coastal Region Rice Areas in Alaçam District, Samsun, on Soil-Water Properties and Seawater İntrusion by Different İnterpolation Methods, Ondokuz Mayıs Univ. Graduate School of Natural and Applied Sciences, Department of Agricultural Structures and Irrigation, Dr. Thesis, 2017, Samsun.
4. Özaydın K. A., Yıldırım Y. E., Köksal E. S., Çetin Ö., Yıldız Ö., Sönmez B., Tahmiscioğlu M. S., Küçükcoşkun Ş., Caymaz U., Uçar İ., Türkeş M., Taş İ., Kodal S., Bulut İ., Yılmaz A., Kolsuz H. U., Bulut F., Şimşek O., Angın N., Kaya B., Bilgen G. K., Avağ K., Köşker Y., Aysel M., Tekeli M., Aydınşakir K., Dinç N., Berekatoğlu K., Güney E., Karagöz K., Uygan D., Özbek Ö., Kösetürkmen S., Küçükyumuk C., Yıldız H., Korkmaz N., Gündüz M., Şen S., Akap P. T., Özçelik Ş., Altay T., Aras S., Yüzbaşı Ş., Çebi Ü., Özdemir A. G., Özer S., Gündüz A., DüNDAR M. A., Çolak Y. B., Baydar A., Taşan M., Kara F., Taş M. A., Bahçeci P., Üğlü G., Boyacıoğlu A., Özer N., Database Design for Evapotranspiration Studies, II. International Symposium on Drought and Desertification, KONYA, , 16 -18.9.2014



DR. MEHMET TAŞAN
Agricultural Engineer (PhD)



5. Çetin Ö., Sönmez B., Küçükcoşkun Ş., Bilgen Karaca G., Gönen E., Çolak Bozkurt Y., Özfidaner M., Baydar A., Çebi Ü., Özer S., Öztürk O., Aydın B. , Dinç N., Aydınşakir K., Özbek Ö., Tunç T., Evren S., Uygan D., Fidantemiz Y.F., Cantürk A., Taşan M., Yıldırım D., Avağ K., Güngör B., Dünder MA., Demirci S., Özçelik S., Gündüz M., Şen S., Nacar A.S., Taş Anlağan M., Doğan P., Karabat K., Afacan H., Ölmez Ataoğ H., 2022. Deficit Irrigation Guide for Crops Grown in Turkey. Ministry of Agriculture and Forestry, General Directorate of Agricultural Research and Policies. Ankara Turkey.
6. Beyazgül M., Sönmez B., Tahmiscioğlu M., S., Yılmaz A., Küçükcoşkun Ş., Bulut İ., Uçar İ., Bulut F., Caymaz U., Kolsuz H., U., Kodal S., Yıldırım Y., E., Çetin Ö., Köksal E., S., Taş İ., Özyayın K., A., Yıldız Ö., Şimşek O., Özer M., N., Çolak Y., B., Baydar A., Kösetürkmen S., Üğlü G., Aydınşakir K., Dinç N., Özbek Ö., Angın N., Kaya B., Evren S., Güney E., Karagöz K., Taş M., A., Berekatoğlu K., Uygan D., Taşan M., Kara F., Çebi Ü., Özer S., Özdemir A., G., Gündüz A., Dünder M., A., Küçükyumuk C., Yıldız H., Aydın O., Bilgen G., K., Avağ K., Köşker Y., Aysel M., Alsan P., B., Korkmaz D., Gündüz M., Şen S., Özçelik Ş., Akap P., T., Altay T., Aras S., Yüzbaşı Ş., Boyacıoğlu A., Tunca E., Çetin S., Evapotranspiration of Irrigated Plants in Turkey, Book, s:565

▪ **Membership, Training, Course, Meeting, Congress, Symposium and Other Activities**