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Prof. Dr. Sabit ERŞAHIN (PhD in Soil Science)

Department of Soil Science and Plant Nutrition, Faculty of Agriculture, Iğdır University,
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EDUCATION

B.S: Agricultural Faculty. Cukurova University, June, 1986.

M.S: Graduate School of Natural and Applied Sciences. Cukurova University. February, 1990. Emphasis in Soil Physics. Thesis Topic: Relationship between infiltration rate and some properties of six widely distributed soil series in Harran plain.

Ph.D: Department of Crops and Soil Sciences, College of Agriculture, Washington State University. December, 1996. Emphasis in Soil Physics. Dissertation Topic: Solute transport in layered sloping soils.

Work experience

Department of Soil Science and Plant Nutrition, Faculty of Agriculture, Iğdır University, Turkey 2021-

Department of Forest Engineering, School of Forestry, Çankırı Karatekin University, Çankırı, Turkey 2009 –2021.

Department of Soil Science, Faculty of Agriculture, Ordu University, Turkey 2008-2009

Consultant to Turkish Scientific and Technological Research Institute (TUBITAK) 2005-2008

Department of Soil Science, Agricultural Faculty, Gaziosmanpaşa University: Turkey, 2003-2008: Teaching Basic Soils, Soil Management, Soil Physics, Experimental

Department of Soil Science, Agricultural Faculty, Gaziosmanpaşa University: 1997-2003.

Department of Crops and Soil Sciences, College of Agriculture at Washington State University: 1992-1996.

Cumhuriyet University, Agricultural Faculty (Turkey): 1989-1991.

Southeastern Anatolian Project: 1987-1988.

RESEARCH INTERESTS

Soil Physics and hydrology

Geostatistics

Hydropedology

Soil management

Desertification and land degradation

Environmental Modeling

Soil quality assessment

PROFESSIONAL MEMBERSHIPS

American Society of Agronomy

Soil Science Society of America

Soil Science Society of Turkey

PROFESSIONAL AFFILIATIONS

1. Member, Advisory Board of General Directorate for Combating Desertification and Erosion, Ministry of Forestry and Water (2010-).
2. Member, General Directorate of Agricultural Research, Ministry of Food, Agriculture and Livestock (2011-).
3. Member, Agriculture, Forestry and Foot Advisory Board, Scientific and Technological Institution of Turkey (TUBITAK) (2005-2008).
4. Member, Multidisciplinary Research Team for Determination of Desertification Criteria and Indices for Turkey and Development of a Desertification Report (2013-2016).
5. President, Soil Science Society of Turkey (2010-2012).
6. Vice President, EUROSIL Istanbul 2016 (2012-2016).

7. Organizer, the 13th International Symposium of the International Scientific Centre of Fertilizers (June 10-13, 2002, Gaziosmapaşa University, Tokat, Turkey).
8. Research associate, Yeşilırmak (Green River, Turkey) watershed development project (1998-2001)

SELECTED PUBLICATIONS

1. Erşahin, S., F. Tohumcu, and R. Çallı. 2025. Exploring geospatial link between soils and national intelligence quotient. *Scientific Reports* 15(1): 1–14. doi: 10.1038/s41598-025-22539-5.
2. Savaşlı, E., O. Önder, Y. Karaduman, D. Özen, R. Dayıoğlu, et al. 2024. Developing early-estimating normalized difference vegetation index calibrations for grain yield and technological quality of bread wheat in semi-arid rainfed conditions. *Journal of Cereal Science* 120(August). doi: 10.1016/j.jcs.2024.104053.
3. Wardami, A., S. Erşahin, and G. Karahan. 2024. Variable rate phosphorus fertilizer recommendations for rainfed wheat. *Mediterranean Agricultural Sciences* 37(1): 41–50. doi: 10.29136/mediterranean.1199628.
4. Savasli, E., Onder, O., Karaduman, Y., Ozen D., Dayioglu, R., Ozdemir, S., Akin, A., Ates, O., Ekiz, M., **Erşahin, S.** 2023. Effect of Deep Nitrogen Fertilizer Application on Grain Protein Content and Quality of Bread Wheat. *Communications in Soil Science and Plant Analysis*, 54:17, 2412-2424. DOI: 10.1080/00103624.2023.2223639
5. Savaşlı, E., Önder, O., Dayıoğlu, R., Belen, S., Çakmak, M., Çekiç, C., Bolat, N., Aydın, N., Vanlı, Ö., **Erşahin, S.** 2023. Estimating grain and biomass yield of bread wheat genotypes by optical sensors, *European Journal of Agronomy*, Volume 150, 126923. ISSN 1161-0301. <https://doi.org/10.1016/j.eja.2023.126923>.
6. **Erşahin, S.**, Bilgili, B.C. 2023. Nitrates in Turkish waters: Sources, mechanisms, impacts, and mitigation. *Environmental Science and Pollution Research*. 30:95250–95271
7. Kavaklıgil, S.S. **Erşahin, S.** 2023. Spatial Variability of Some Soil Physical Properties on Semi-Arid Cultivated Hillslopes in Hydropedological Perspective. *Eurasian Soil Science*. 56:715-726. <https://doi.org/10.1134/S1064229323700151>
8. Kavaklıgil S. S. **Ersahin. S.** 2022. Multivariate analysis of hydropedologically significant soil variables on cultivated semi-arid hillslopes. *Soil Research*.
9. **Ersahin, S.** 2020. E method for calculating land degradation neutrality. *Method X*. 7: 100969.

10. Bilgili, B.C, **Ersahin, S.**, Sünal K., S., Oner, N. 2020. Net primary productivity of a mountain forest ecosystem as affected by climate and topography. *CERNE*, 26 (3): 356-368.
11. Gül, E., **Ersahin, S.** 2019. Evaluating the desertification vulnerability of a semiarid landscape under different land uses with the environmental sensitivity index. *Land Degrad Dev.* 30: 811-823.
12. **Erşahin, S.**,T. Aşkın, C. Tarakçıoğlu, D.B. Özenç, K. Korkmaz, T. Kutlu, S. Sünal, B.C. Bilgili. 2017. Spatial variation in the solute transport attributes of adjacent Typic Haplusteps, Mollic Ustifluvents, and Lithic Ustipsamments. *Geoderma* 289, 107-116.
13. **Erşahin S.**, S. Kapur, G. Aydın, E. Akça, D. Tolunay, Ö. Görücü, G. Karahan, C. Bilgili. 2017. Terrestrial Ecosystem Carbon Dynamics as Influenced by Land Use and Climate. *Carbon Management, Technologies, and Trends in Mediterranean Ecosystems*, Springer International Publishing, 27-44.
14. **Erşahin, S.** C. Bilgili, Ü. Dikmen, İ. Ercanlı. 2016. Net Primary productivity of Anatolian Forests in relation to climate 2000-2010. *Forest Science*, 62 (6), 698-709.
15. Kurunç, A, S **Ersahin**, N K Sonmez, H. Kaman, I. Uz, B. Y Uz, G. E Aslan. 2016. Seasonal changes of spatial variation of some groundwater quality variables in a large irrigated coastal Mediterranean region of Turkey. *Science of the Total Environment*, 554: 53-63.
16. Karahan, G., S. **Erşahin**. 2016. Predicting saturated hydraulic conductivity using soil morphological properties. *Eurasian Journal of Soil Science*, 5(1): 30-41.
17. Bayat, H., E. Ebrahimi, S. **Ersahin**, E.N. Hepper, D.N. Singh et al., 2015. Analyzing the effect of various soil properties on the estimation of soil specific surface area by different methods. *Applied Clay Science*. 116:129-140.
18. Erol, AS, E Shein, E Milanovskiy, F Mikailsoy, F Er, S. **Erşahin**. 2015. Physical and microbiological properties of alluvial calcareous Çumra province soils (Central Anatolia, Turkey). *Eurasian Journal of Soil Science*. 4(2): 107.
19. Abay, G., E Gül, A Günlü, S **Erşahin**, S Ursavaş. 2015. Spatial variation, mapping, and classification of moss families in semi-arid landscapes in NW Turkey. *Environmental monitoring and assessment*. 187(3):1-11.
20. Shein, E.V., S.A. Erol, E. Yu Milanovskii, N.V .Verkhovtseva, F.D. Mikayilov, F. Er, S. **Ersahin**. 2014. Agrophysical assessment of alluvial calcareous soils of the Cumra Region of Central Anatolia in Turkey. *Eurasian soil science*. 47(7): 694-698.

21. Abay, G., E. Gül, S. Ursavas, S. **Ersahin**. 2014. Substratum properties and mosses in semi-arid environments. A case study from North Turkey. *Cryptogamie, Bryologie*. 35(2):181-196.
22. Güler, M., H. Arslan, B. Cemek, S. **Erşahin**. 2014. Long-term changes in spatial variation of soil electrical conductivity and exchangeable sodium percentage in irrigated mesic Usitfluvents. *Agricultural Water Management*, 135:1-8.
23. Bayat, H., **Ersahin**, S., Hepper, E. N. 2013. Improving Estimation of Specific Surface Area by Artificial Neural Network Ensembles Using Fractal and Particle Size Distribution Curve Parameters as Predictors. *Environmental Modeling & Assessment*, 1-10.
24. Oğuz, I, Susam T, **Ersahin**, S, Karas, E. 2012. Evaluation of Soil Degradation Impact on Wheat Yield by Geographical Information System. *Communications In Soil Science And Plant Analysis* : 43 (14), 1867-1882. **DOI**: 10.1080/00103624.2012.689394.
25. Kurunç, A, **Ersahin**, S., Uz, B.Y., Sonmez, N.K., Uz, I, Kamah, H, Bacalan GE, Emekli Y. 2011. Identification of nitrate leaching hot spots in a large area with contrasting soil texture and management. *Agricultural Water Management* : 98 (6), 1013-1019. **DOI**: 10.1016/j.agwat.2011.01.010
26. Gunal, H., **Ersahin**, S. Uz, B.Y., Budak, M, Acir, N. 2011. Soil particle size distribution and solid fractal dimension as influenced by pretreatments. *Journal of Agricultural Sciences (Tarım Bilimleri Dergisi)*, 17:217-229.
27. Celik, I., **Ersahin**, S. 2011. Evaluation of tillage influence on infiltration characteristics in a clay soil. *Journal of Food, Agriculture & Environment*, 9(1): 653-658.
28. Ogüz, İ., **Erşahin**, S., Susam, T. 2011. Evaluation of desertification potential in a sloping cathment. *Carpathian Journal of Earth and Environmental Sciences*. Volume 6.
29. Gündoğan, H. Merdun, A.R. Demirkıran, N. Hall, R. Ağıtürk, A. Erol, **S. Erşahin**. 2010. Temporal variation of soil moisture under alley cropping system in pistachio in semi-arid region of Turkey. *International Journal of Agriculture and Biology*. Vol: 12 No:4, 601-605.
30. Akbaş, F, H. Günal, F. Gökmen, S. Gezgin, **S. Erşahin**. 2009. Spatial variation of micronutrients in topsoil and subsoil of vertic Haplusteps. *Agrochimica*, Vol. LIII-N.2, 101-115.
31. Ünlükara, A., B. Cemek, S. Karaman, **S. Erşahin**. 2008. Response of lettuce (*Lactuca sativa* var. *crispa*) to salinity of irrigation water. *New Zeal. J. Crop. and Hort. Sci.* 36: 265-273.

32. Demir, Y., **S. Erşahin**, M. Güler, B. Cemek, H. Günal, H. Arslan. 2008. Spatial variability of depth and salinity of groundwater under irrigated ustifluvents in the Middle Black Sea Region of Turkey. *Environmental Monitoring and Assessment*, 147 (1-3).
33. Kutlu, T., and **S. Erşahin**. 2008. Relations between pore fractal dimension (D_p) and some physical properties of alluvial-colluvial soils. *Journal of Food Agriculture & Environment*, 6:433-438.
34. Kutlu, T., **S. Erşahin**, and B. Yetgin. 2008. Relations between solid fractal dimension (D_p) and some physical properties of soils formed over alluvial and colluvial deposits. *Journal of Food Agriculture & Environment*, 6:445-449.
35. Kutlu, T., and **S. Erşahin**. 2008. Evaluation of physical quality in mollic ustifluent, typic ustifluent and typic ustorthent using Dexter's S-theory. *Journal of Food Agriculture & Environment*, 6:450-455.
36. Günal, H., F. Akbaş, **S. Erşahin**, M. Budak. 2008. Soil indices for differentiating parent material in an alluvial/colluvial location. *Agrochimica*. Vol. LI-N. 4-5.
37. Ozgoz, E., F. Akbaş, H. Günal, **S. Erşahin**, and M. Çetin. 2009. Long term conventional tillage effect on spatial variability of some soil physical properties. *Journal of Sustainable Agriculture*.
38. Günal, H., **S. Erşahin**, T. Kutlu, and B. Yetgin. 2007. Differentiation of Soil Horizons and Parent Materials by Quantified Soil Color Parameters. *Agrochimica*, L1. N1:86-94.
39. Günal, H., **S. Erşahin**, B. Yetgin, T. Kutlu. 2008. Use of Chromameter-Measured Color Parameters in Estimating Color-Related Soil Variables. *Communication in Soil Science and Plant Analysis*. 39:726-740.
40. Ozgoz, E., Akbas, F., Çetin, M., **Ersahin, S.**, Günal, H., 2007. Spatial variabilities of soil physical properties as affected by different tillage systems. *New Zealand Journal of Hort., Sci.*, 35, 1-13.
41. **Ersahin S.**, and A. R. Brohi. 2006. Spatial variation of soil water content in topsoil and subsoil of a Typic Ustifluent. *Agricultural Water Management*. 83:79-86.
42. Karaman, S., **S. Erşahin**, and H. Günal. 2006. Firing temperature and firing time influence on mechanical and physical properties of clay bricks. *Journal of Scientific & Industrial Research* 65: 153-159.

43. **Ersahin, S. H.** Gunal, T. Kutlu, B. Yetgin, and S. Coban. 2006. Estimating specific surface area and cation exchange capacity in soils with fractal dimension of particle size distribution. *Geoderma*, 136: 588-597.
44. Karaman, S., H. Gunal, and **S. Ersahin**. 2006. Estimating clay bricks compressive strenght using quantitative values of color components. *Constr.& Build Materials*, 20 (5), 348-354.
45. Karaman, M. R., **S Ersahin**, K. Saltalı, H. Guleç, and M. R. Dericı. 2004. Modeling nitrate uptake and potential nitrate leaching under different irrigation programs in nitrogen-fertilized tomato using the computer program NLEAP. *Environmental Monitoring and Assessment*. 17:58.
46. **Ersahin, S.** 2003. Comparing ordinary kriging and cokriging to estimate infiltration rate. *Soil Sci., Soc., Am., J.* 67: 1848-1855.
47. **Ersahin, S.,** A.R. Papendick, J.L. Smith, C.K. Keller, and V.S. Manoranjan. 2002. Macropore transport of bromide as influenced by soil structure differences. *Geoderma*. 108/3-4, 207-223.
48. **Ersahin, S.** 2001. Assessment of Spatial Variablity in Nitrate Leaching to Reduce Nitrogen Fertilizers Impact on Water Quality. *Agricultural Water Management*. 48/3, 179-189.
49. **Ersahin, S.,** and M.R. Karaman. 2002. Estimating Potential nitrate leaching in nitrogen fertilized and irrigated tomato using computer model NLEAP. *Agricultural Water Management*. 51/1, 1-12.
50. Yeşilsoy M. Ş., and **S. Erşahin**. 1997. Soil, water and crop management practices in the dryland farming regions of Turkey. *American Journal of Alternative Agriculture*. 130-132.

BOOKS

Karahan, G., and S. Erşahin. 2025. *Toprakta Jips: Tanımlama, Analiz ve Değerlendirme*. Serüven Yayınevi, Ankara.

BOOK CHAPTERS

1. Karahan, G., and S. Erşahin. 2025b. Jipsli toprakların hidrolojisi ve yapısal özellikleri. In: Çelik, A., editor, *Toprak Bilimi ve Bitki Besleme Alanında Uluslararası Araştırmalar-II*. 1st ed. Eğitim Yayınevi, Ankara. p. 129
2. Özcan, H. Dengiz, O., Ersahin, S. 2018. Allisols-Acrisols. In, *Soils of Turkey*. Springer, ISBN:978-3-319-64390-8.

3. Ekici, H. Özcan, H., Yüksel O, Erşahin, S. Podzols. In, Soils of Turkey. Springer, ISBN:978-3-319-64390-8.
4. Dengiz, O., Özcan, H. , Erşahin, S. 2018. Lixisols. In, Soils of Turkey. Springer, ISBN:978-3-319-64390-8.
5. Erşahin, S., Kapur, S., Aydın, G., Akça, E., Doğanay, T., Görücü, Ö., Karahan, G., Bilgili, B.C. Gönül Aydın, Erhan Akça, Doğanay Tolunay, Özden Görücü, Gülay Karahan, Bilgili, B.C. 2017. Carbon Management, Technologies, and Trends in Mediterranean Ecosystems. In, Carbon Management, Technologies, and Trends in Mediterranean Ecosystems, 27-44. Springer International Publishing.
6. Oğuz, I., Karas, E., Erşahin, S., Susam, S. 2016. Land degradation and desertification—a global crisis. London: Intech Open Book Series.
7. Aydın, G., Çullu, M., Erşahin, S., Akça, E., Erdoğan, E., Atatanır, L., Yorulmaz, A., Çilek, A., Ersoy, M., Somayyeh, M., Kapur, S. Lal, R. 2017. Mapping soil carbon stocks in Turkey. Encyclopedia of Soil Science, Vols I-Iii, 3rd Edition.

BOOKS EDITED

1. Carbon Management, Technologies, and Trends in Mediterranean Ecosystems. 2016. **Erşahin, S.**, Kapur, S., Erhan, A., Namlı, A., Erdoğan, H.E. (Eds.). Springer International Publishing.
2. Soil Security for Ecosystem Management: Mediterranean Soil Ecosystems 1. 2015. Kapur, S., **Ersahin, S.** (Eds.). Springer International Publishing.
3. Toprak Amenajmanı (Soil Management). 2015. **S. Erşahin**, T. Öztaş, Ayten Namlı, G. Karahan. (Eds.). Gazi Kitabevi (in Turkish).
4. Fertilizers in Context with Resource Management in Agriculture. 2002. C.E. Hera, E. Chung, M.T. Topbas, H. Gunal, S. Ersahin (Eds). Proceedings to 13th International Fertilizer Symposium. June 10-13, 2002, Tokat Turkey.

Total number of publications: 159

Number of papers presented in International congresses and symposia: 85

H-index: 13 based on Web of Science, 23 based on Google Scholar.

I10-index: 43, based on Google Scholar

MANUSCRIPTS REVIEWED IN INTERNATIONAL JOURNALS

Name of Journal	Number of manuscripts reviewed
Agricultural Water Management	13
Environmental Earth Science	12
Archives of Agronomy and Soil Science	16
Turkish Jour. Agr. Forestry	5
Agricultural Sciences	4
Pedosphere	3
Science of Total Environment	2
The Scientific World Journal	2
Catena	1
Solid Earth	2
Applied Water Science	1
Nobel International Journals	2
Journal of Plant Nut. Soil Sci.	2
Advances in Water Resour.	1
Journal of Materials in CMI engineering ASCE.	1
Journal of Irrigation and Drainage Engineering ASAE	1
Australian J. of Soil Research	2
Encyclopedia of Soil Science	1
Journal of Agricultural Science and Technology	2
Journal of Plant Nutrition and Soil Science	2
Land Degradation and Development	2
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