



TAGEM
R&D AND INNOVATION

CENTRAL RESEARCH INSTITUTE for FIELD
CROPS/ ANKARA



SEDA KÜLEN, PhD

Chemist

EDUCATION

- PhD**
2021
Ankara University
Graduate School of Natural and
Applied Sciences, Department of
Chemistry
- MSc**
2010
Ankara University
Graduate School of Natural and
Applied Sciences, Department of
Chemistry
- Bachelor's Degree**
2008
Ankara University
Faculty of Science, Department of
Chemistry

LANGUAGE YDS 75

CAREER

- 2011-.... Researcher (Chemist) - Ministry of Food and
Forestry, Central Research Institute for Field Crops,
"Quality Evaluation Department" (Ankara/Turkey)

ABOUT ME

I was born in Malatya in 1986. I graduated from Ankara University, Faculty of Science, Department of Chemistry in 2008.

In 2011, I was appointed to the Central Research Institute for Field Crops as a chemist. In the Quality and Technology Department, I took part in projects and studies on quality research of edible legumes and cereals.

In 2021, I completed my doctoral thesis named "Synthesis of new transition metal complexes of some 2-substituted benzimidazole derivatives, elucidation of their structures and investigation of their effects on germination parameters of wheat".

CONTACT

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■ **PROJECTS**

■ **Projects Conducted**

1. Determination of the Response of Some Newly Developed Barley Varieties to Nitrogen Fertilizer and Investigation of Sowing Frequency, TAGEM, Researcher (2016-2020)
2. Determination of Distinctive Quality Criteria of Whole Wheat Bread, TAGEM, Researcher (2018-2020).
3. Usage of Wheat Varieties in Flour Industry in Ankara, Flour Preference of Bakeries and Consumer Demands in Bread, TAGEM, Researcher (2014-2015).
4. Investigation of the effects of different nitrogen applications on yield and hyperspectral reflection properties in wheat, TAGEM, Researcher (2014-2017)
5. National Food Legumes Quality Research, TAGEM, Researcher (2014-2018)
6. National Winter Bread Wheat Quality Research, TAGEM, Researcher (2013-2017)
7. National Spring Bread Wheat Quality Research, TAGEM, Researcher (2013-2017)
8. National Winter Durum Wheat Quality Research, TAGEM, Researcher (2013-2017)
9. Determination of Yield and Quality Characteristics of Bread Wheat Varieties Organically Grown in Ankara Ecological Conditions, TAGEM, Researcher (2012- 2017)
10. National Spring Barley Quality Research, TAGEM, Researcher (2013-2017)
11. National Winter Durum Barley Research, TAGEM, Researcher (2013-2017)
12. National Spring Durum Wheat Quality Research, TAGEM, Researcher (2013-2017)
13. National Winter Bread Wheat Quality Research, TAGEM, Researcher (2008-2012)
14. National Spring Bread Wheat Quality Research, TAGEM, Researcher (2008-2012)
15. National Winter Durum Wheat Quality Research, TAGEM, Researcher (2008-2012)
16. National Spring Durum Wheat Quality Research, TAGEM, Researcher (2008-2012)
17. National Winter Barley Quality Research, TAGEM, Researcher (2008-2012)
18. National Spring Barley Quality Research, TAGEM, Researcher (2008-2012)
19. National Food Legumes Quality Research, TAGEM, Researcher (2008-2012)

■ **Ongoing Projects**

1. Research on Increasing Iron, Zinc or Selenium Content in Chickpeas and Lentils, TAGEM, Researcher, (2021-continue)
2. The Effect of Foliar and Base Fertilizer Applications on Yield and Yield Components in Chickpea Grown at Different Plant Densities, TAGEM, Researcher, (2020-continue)
3. National Food Legumes Quality Research, TAGEM, Researcher (2021-continue)
4. Middle Anatolian chick-pea quality studies, TAGEM, Researcher (2019-continue)
5. Middle Anatolian lentil quality studies, TAGEM, Researcher (2019- continue)



■ **PUBLICATIONS**

■ **INTERNATIONAL ARTICLES AND PAPERS**

■ **Articles Published in International Journals**

1. **S. Özbay**; T. Yanardağ; S. Dinçer; A. A. Aksüt , “Benzimidazole Schiff bases as corrosion inhibitors for copper and brass, 2014, European International Journal of Science and Technology”.
2. T. Yanardağ, **S. Özbay**, S. Dinçer, A. A. Aksüt “Corrosion Inhibition Efficiency of Benzimidazole and Benzimidazole Derivatives for Zinc, Copper and Brass” ‘Asian Journal of Chemistry’ 24, 1 (2012) pp. 47-52. ISSN: 0970-7077
3. S. Dincer and **S. Özbay** “Synthesis and Spectroscopic Properties of New Benzimidazole Schiff Bases” ‘Asian Journal of Chemistry’ 24, 10 (2012) pp. 4449 – 4452

■ **International Papers, Seminars, etc.**

1. R. Avcioglu, **S. Külen** & T. Şanal, Development of Calibration Equations for Some Quality Parameters of Chickpea Flour Using Near-Infrared Reflectance Spectroscopy (NIRS), International Agricultural, Biological ve Life Science Conference, 02 Eylül 2018, 05 Eylül 2018, 325 (Poster Presentation).
2. **S. Külen** & S. Dinçer, Evaluation of the Effects of Compounds N-(1H- benzimidazol-2-il)-1-(4-chlorophenyl)methanimine ve N-(1H-Benzimidazol-2- il)-1-(4- nitrophenyl)methanimine on Germination of Some Bread ve Durum Wheat Varieties. Sözlü Sunum, International Agricultural, Biological ve Life Science Conference, 02- 05 Eylül 2018, 276 – 276 (Oral Presentation).
3. **S. Külen**, R. Avcioglu, A. Özer, T. Şanal & A. Keçeli, Relationship Between Alkaline Water Retention Capacity ve Other Quality Parameters in Some Chickpea (Cicer Arietinum L.) Line ve Variaties, International Agricultural, Biological ve Life Science Conference, 02 Eylül 2018, 05 Eylül 2018, 333 – 333 (Poster Presentation).
4. **S. Külen**, T. Şanal, S. Güler & R. Avcioglu, Using the Near Infrared Reflectance Spectroscopy (NIRS) Method to Evaluate Calibration Equations for Some Quality Parameters of Barley, International Agricultural, Biological ve Life Science Conference, 02 Eylül 2018, 05 Eylül 2018, 330 – 330 (Poster Presentation).
5. T. Şanal, **S. Külen**, R. Avcioglu & A. Özer, Determnaton of Textural Propertes ve Quality Parameters of Wheat Bread Enriched With Different Levels of Lentil Flours, 13 th International Gluten Workshop, 14 Mart 2018, 17 Mart 2018 (Poster Presentation).
6. **S. Külen**, R. Avcioglu, A. Özer & T. Şanal, Examinaton of Some Textural Propertes of Breads Made from Chckpea Flour, 13 th International Gluten Workshop, 14 Mart 2018, 17 Mart 2018 (Poster Presentation).
7. T. Şanal, **S. Külen**, K. Özbek & N. T. Özderen, Evaluation of Important Quality Parameters for Pasta Industry on Some Durum Wheat Landraces Genotypes in Turkey, 4 th ICC Latin American Cereals Conference, 11 Mart 2018, 14 Mart 2018 (Oral Presentation).



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9. **S. Külen**, T. Şanal & S. Dinçer, Investigation of the Effect of the Synthesized 5,6- Dinitro-2- Methyl-1H- Benzimidazole on Germination of Some Wheat Varieties, 4 th ICC Latin American Cereals Conference, 11 Mart 2018, 14 Mart 2018 (Poster Presentation).
10. **S. Külen**, F. Eroğlu, S. Dinçer & M. Gümüşsoy, Investigation of Some Lavender Essential Oils Components Using UV, FT-IR ve GC Analysis, I. International Congress on Medicinal and Aromatic Plants & Natural and Healthy Life" 10 Mayıs 2017, 12 Mayıs 2017, 1825 – 1825 (Poster Presentation).
11. F. Eroğlu, **S. Külen**, S. Dinçer & M. Gümüşsoy, Spectroscopic Investigaton of Essental Oil Components in Some Thyme Speces, I. International Congress on Medicinal and Aromatic Plants: Natural ve Healthy Life, 10 Mayıs 2017, 12 Mayıs 2017, 1826 – 1826 (Poster Presentation).
12. **S. Külen**, T. Şanal, K. Özbek & K. Karaca, Evaluation of Some Quality Parameters on Some Landrace Durum Wheat Samples, II. International Plant Breeding Congress and Eucarpia-Oil and Protein Crops Section Conference, 01 Kasım 2015, 01 Kasım 2015, 385 – 385 (Poster Presentation).
13. **S. Külen**, T. Şanal, B. Çetiner. Prediction of Solvent Retention Capacity Values by Using NIR Spectroscopy Technique, Balkan Agriculture Congress, 08 Eylül 2014, 08 Eylül 2014, 184 (Poster Presentation).
14. **S. Özbay**, S. Dinçer, T. Yanardağ, A. Aksüt. Benzimidazole Schiff Bases as Corrosion Inhibitors for Copper and Brass, Hong Kong International Conference on Engineering ve Applied Science, 29 Ocak 2014, 29 Ocak 2014 (Poster Presentation).
15. T. Yanardağ, S. Dinçer, G. Gönülalan, **S. Özbay**, A.A. Aksüt. The Effect of 1H-Benzimidazole ve 2-Methyl- 1H-Benzimidazole on the Corrosion of Copper and Brass in the Aqueous Solution, 8th International Electrochemistry Meeting, 08 Ekim 2009, 08 Ekim 2009 (Poster Presentation).
16. T. Yanardağ, S. Dinçer, **S. Özbay**, G. Gönülalan, A.A. Aksüt. The Effect of 1H-Benzimidazole ve 5-Nitro-1H- Benzimidazole on the Corrosion of Copper and Brass in the Aqueous Solution, 8th International Electrochemistry Meeting, 08 Ekim 2009, 08 Ekim 2009 (Poster Presentation).

▪ NATIONAL ARTICLES AND PAPERS

▪ Articles Published in National Journals

1. R. Taşçı, S. Karabak, M. Bolat, A. Pehlivan, T. Şanal, O. Acar, **S. Külen**, E. Güneş & M. Albayrak, Ankara İlinde Un Fabrikalarının Buğday Alım Kriterleri, Üretim ve Pazarlama Yapıları, Tarla Bitkileri Merkez Araştırma Enstitüsü Dergisi, 2018, 1302- 4310, 27, 2, 82.
2. M. Aydoğdu, H. Yıldız, E. Ünal & **S. Külen**, Evaluating Hyperspectral Vegetation Indices for Estimating Nitrogen Concentration of Winter Wheat at Different Growth Stages, Tarla Bitkileri Merkez Araştırma Enstitüsü Dergisi, 2018, 1302- 4310, 27, 1, 14-27
3. R. Taşçı, S. Karabak, M. Bolat, A. Pehlivan, T. Şanal, O. Acar, **S. Külen**, E. Güneş & M. Albayrak, Ankara İlinde Ekmek Fırınlarnının Üretim Yapısı ve Ekmek İsrafi, Tarım Ekonomisi Araştırmaları Dergisi, 2017, 2149-3948, 3, 1, 1- 16.
4. A. Keçeli, A. Kaplan Evlice, A. Pehlivan, T. Şanal, K. Karaca, **S. Külen**, A. Seis Subaşı, A. Salantur, Ekmeklik Buğdayda (Triticum aestivum L.) Zeleny Sedimentasyon Analizi ve Diğer Kalite Parametreleri ile İlişisinin İncelenmesi, KSÜ Doğa Bil. Derg, 2017, 20 (Özel Sayı), 292-296.



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5. R. Taşçı, S. Karabak, M. Bolat, O. Acar, T. Şanal, A. Pehlivan, **S. Külen**, E. Güneş & M. Albayrak, Ankara İlinde Ekmekte Tüketici Tercihleri, Tarla Bitkileri Merkez Araştırma Enstitüsü Dergisi, 2017, 1302-4310, 26, 1, 75.
6. A. Kaplan Evlice, A. Pehlivan, **S. Külen**, A. Keçeli, T. Şanal, K. Karaca & A. Salantur, Ekmeklik Buğday (Triticum Aestivum L.) Genotiplerinde Ekmek Hacmi ve Bazı Kalite Parametreleri Arasındaki İlişkilerin İncelenmesi, Tarla Bitkileri Merkez Araştırma Enstitüsü Dergisi, 2016, 1302-4310, 25, 1, 12-18.

▪ International Papers, Seminars, etc.

1. M. R. Akkaya, T. Şanal, **S. Külen**, H. Yücel, C. A. Oluk, Nohut (Cicer Arietinum L.) ta Protein Oranını Belirlemek Amacıyla NIRS (Near infrared Reflectance Spectroscopy) da Geliştirilen Kalibrasyonun Dumas Yöntemiyle Karşılaştırılması, İç Anadolu Bölgesi 2. Tarım ve Gıda Kongresi, 28 Nisan 2015, 28 Nisan 2015 (Poster Presentation).

▪ OTHER PUBLICATIONS

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

1. **Külen, S.** 2010. New derivative synthesis of some aminobenzimidazoles. Master Thesis. Ankara University, Department of Chemistry, 113 p, Ankara.
2. **Külen, S.** 2021. Synthesis and characterization of novel transition metal complexes of some 2-substituted benzimidazole derivatives and investigation their influence on wheat germination parameters. Ph.D. Thesis. Ankara University, Department of Chemistry, 179 p, Ankara.

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

1. CEM Mars 6 Microwave System User Training, Aralık 2021, CEM Service, Terra, ANKARA.
2. "Method Validation and Measurement Uncertainty Calculation" Training Program, 25.03.2019-28.03.2019 (4 days), Ankara, Sart Consultancy.
3. "Traceability of Measurements" Training Program, 29.03.2019-01.04.2019 (4 days), Ankara, Sart Consultancy.
4. "Internal Audit" Training Program, 04.04.2019-04.04.2019 (2 gün), Ankara, Sart Consultancy.
5. "TSE EN ISO/IEC 17025:2017 "General Requirements for Competence of Experiment and Calibration Laboratories" Educational program, 04.03.2019- 06.03.2019 (3 gün), Ankara, Sart Consultancy.
6. "Internal Quality Control" Educational program, 02.04.2019-03.04.2019 (2 days), Ankara, Sart Consultancy.
7. "New Methods for Determining Food Legume Quality' training programme, 14.12.2015-14.03.2016, Canadian Grain Commission-Pulse Research Laboratory, Canada.
8. Exam - Canada Labour Code, Part II: An Overview Certificate, Canadian Centre for Occupational Health and Safety (CCOHS), Hamilton Ontario, Canada, 04.01. 2016



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9. WHMIS 2015 for Workers Certificate, Canadian Centre for Occupational Health and Safety (CCOHS), Hamilton Ontario, Canada, 04.01. 2016.
10. Exam – Hazard Identification, Assessment and Control Certificate, Canadian Centre for Occupational Health and Safety (CCOHS), Hamilton Ontario, Canada, 04.01.2016.
11. Exam – Manual Materials Handling Certificate, Canadian Centre for Occupational Health and Safety (CCOHS), Hamilton Ontario, Canada, 04.01.2016.
12. Exam – Due Diligence in Occupational Health and Safety Certificate, Canadian Centre for Occupational Health and Safety (CCOHS), Hamilton Ontario, Canada, 04.01.2016
13. “Eppendorf PCR Semineri”, 29 Nisan 2015, Ankara.
14. “Second International Conference on New Trends in Chemometrics and Applications”, 25-28 Ekim, 2013, Ankara.
15. “Kinetex Core-Shell Technology and Method Development Details on Chromatography” Seminar, Matthias Fröbis /Ayes Group, Ankara, Turkey, 13.10.2015.
16. Exam – Manual Materials Handling Certificate, Canadian Centre for Occupational Health and Safety (CCOHS), Hamilton Ontario, Canada, 04.01.2016
17. Exam – Due Diligence in Occupational Health and Safety Certificate, Canadian Centre for Occupational Health and Safety (CCOHS), Hamilton Ontario, Canada, 04.01.2016
18. “Eppendorf PCR Semineri”, 29 Nisan 2015, Ankara.
19. “Second International Conference on New Trends in Chemometrics and Applications”, 25-28 Ekim, 2013, Ankara.
20. “Kinetex Core-Shell Technology and Method Development Details on Chromatography” Seminar, Matthias Fröbis /Ayes Group, Ankara, Turkey (13.10.2015)
21. “Basic Chemometrics Training”, Oba Chemometrics/Akdeniz University Education Faculty, Turkey (04-06.09.2015)
22. “Chemometrics Course Programme” 23-25 October, 2013, Ankara.
23. “International Winter Wheat Improvement Program (IWWIP) Training Course on Wheat Grain Quality”, 21-25 May, 2012, Ankara
24. “Balance Calibration Training Certificate”, Turkish Standards Institute, 07 Temmuz 2011, Ankara.
25. “2nd International Mixolab Workshop”, 2 April 2012, Hacettepe University, Ankara.
26. “Texture Analysis Training Seminar”, ABP, 15 June 2012, İstanbul.
27. “ISO 9001:2000 Quality Management System Internal Auditor Education, Quality Management Systems Certification”, January 2009, ANKARA.
28. “ISO 9001:2000 Quality Management System Basic Training, Quality Management Systems Certification”, January 2009, ANKARA.
29. “OHSAS 18001:2007 Work Health and Work Safety Management System Basic Training ”, Quality Management Systems Certification, March 2009, ANKARA.
30. “ISO 9001:2008 Quality Management System Documentation Training, Quality Management Systems Certification”, March 2009, ANKARA.