



TAGEM
R&D AND INNOVATION

BLACK SEA AGRICULTURAL RESEARCH
INSTITUTE / SAMSUN

DR. BETÜL BAYRAKLI

Agricultural Engineer (PhD)

EDUCATION

- Assoc. Prof.**
- PhD** 2002-2007 Ondokuz Mayıs University
Institute of Science, Department of Soil Science
and Plant Nutrition
- MSc** 1998-2002 Ondokuz Mayıs University
Institute of Science, Department of Soil
Science and Plant Nutrition
- Bachelor's Degree** 1994-1998 Ondokuz Mayıs University
Faculty of Agriculture, Department of Soil

LANGUAGE English UDS: 63.75 YÖKDİL: 75

CAREER

- 2011-... - Technical Staff- Black Sea Agricultural Research
Institute - SAMSUN
- 2005-2011 - Technical Staff -Soil and Water Resources
Research Institute - SAMSUN
- 2001-2005 - Technical Staff -General Directorate of Rural
Services 2002-2008 - Research Assistant - Ondokuz 1999-
2001 –
- Research Assistant-Ondokuz Mayıs University, Graduate
School of Sciences - SAMSUN

ABOUT ME

CONTACT

Karadeniz Tarımsal Araştırma Enstitüsü
Çiftlik Mah. Atatürk Bulvarı No: 313
(Samsun - Ordu Karayolu 17. km),
Gelemen, Tekkeköy / SAMSUN
55300 TÜRKİYE

betul.bayrakli@tarimorman.gov.tr

+90 362 256 05 14



DR. BETÜL BAYRAKLI

Agricultural Engineer (PhD)



▪ **PROJECTS**

▪ **Projects Conducted**

1. The effect of the yield of the plant on inoculation of soybean seeds with different nodozite bacterium culture in the conditions of The Black Sea Region and selection the most suitable culture for the Region. General Directorate of Agricultural Research and Policies, 2003-2006.
2. The effects of hazelnut husk, rice husk and wheat straw to hazelnut, white head cabbage, tomato and wheat's yield and soil properties. General Directorate of Agricultural Research and Policies, 2007-2010.
3. Effect of phosphorus solubilizing bacteria applied with rock phosphate and triple super phosphate on the inorganic phosphorus fractions of soil and wheat yield. General Directorate of Agricultural Research and Policies, 2015-2017.
4. Determination of plant nutrition status and potential toxic element contents of Bartın and Zonguldak Regions agricultural soils, preparation of soil data base and soil maps. General Directorate of Agricultural Research and Policies, 2016-2017.
5. The effect of green manure in maize-wheat crop rotation on yield, quality and soil characteristics. General Directorate of Agricultural Research and Policies, 2000-2005.
6. Producing vermicompost by means of composting hazelnut husk and sewage sludge via earthworm (*Eisenia foetida*) and determining effects of vermicompost use on yield and some toxic metal content of wheat (*triticum Aestivum*) by field and greenhouse experiments. The Scientific and Technological Research Council of Turkey, 2007-2010.
7. Usage of the compost obtained from organic tea processing waste products in organic tea production. General Directorate of Vegetative Production, 2012-2015.
8. The effects of different winter cover crop and organic fertilizers in tomato and red pepper on yield, quality and fungal flora. General Directorate of Vegetative Production, 2012-2014.
9. Organic hazelnut and kiwifruit growing in Samsun province. General Directorate of Vegetative Production, 2008-2011.
10. The inside doog agricultural practices in vegatable on the effect of nitrogenous fertilizer amounts and gyttja doses on yield and soil properties. General Directorate of Agricultural Research and Policies, 2008-2011.
11. Determination of plant nutrient and potential toxic element in middle and East Black Sea Region agricultural soils and their making database and mapping. General Directorate of Agricultural Research and Policies, 2008-2012.
12. The probability of using the sewage sludge (biosolids) from secondary domestic wastewater treatment plants on Bafra Plain agriculture. General Directorate of Agricultural Research and Policies, 2002-2006.
13. Determination of organic agriculture basins in DOKAP Region. Eastern Black Sea Region Development Project Management Presidency (DOKAP), 2016-2018.
14. Determination of important physical and chemical properties of soils cultivated with different plants in terms of irrigation and drainage and estimation of these parameters through artificial intelligence techniques: A Case for Bafra Plain Right Coast

▪ **Ongoing Projects**

1. Determination of suitable carrier materials for some phosphorus soluble bacteria applied together with rock phosphate and effect of bread corn on yield in the field condition
2. Evaluation of Soil Quality of Kiwifruit Cultivation Areas in Samsun and Ordu Provinces.
3. Expanding Microbial Fertilizer Applications



DR. BETÜL BAYRAKLI

Agricultural Engineer (PhD)



▪ **PUBLICATIONS**

▪ **INTERNATIONAL ARTICLES PROCEEDINGS**

▪ **Articles Published in Journals Covered by SCI, SCI-Expanded, SSCI, or AHCI**

1. Kızılkaya,R., **Bayraklı, B.**, 2005. Effect of N-enriched sewage sludge on soil enzyme activities.Applied Soil Ecology 30:192-202.
2. Kızılkaya, R., Aşkın, T., **Bayraklı, B.**, Sağlam, M., 2004. Microbiological characteristics of soils contaminated with heavy metals. European journal of Soil Biology 40:95-102.
3. Sürücü, A., Özyazıcı, M.A., **Bayraklı, B.** and Kızılkaya,R. 2014. Effects of Green Manuring On Soil Enzyme Activity. Fresenius Environmental Bulletin. PSP Volume 23 – No 9.
4. **Bayraklı, B.**, & Dengiz, O.(2020). An evaluation of heavy metal pollution risk in tea cultivation soils of micro-catchments using various pollution indexes under humid environmental condition. *Rendiconti Lincei. Scienze Fisiche e Naturali*, 1-17.

▪ **Published Articles in International Journals**

1. **Bayraklı, B.**, & Dengiz, O. (2019). Determination of heavy metal risk and their enrichment factor in intensive cultivated soils of Tokat Province. *Eurasian Journal of Soil Science*, 8(3), 249-256.
2. **Bayraklı, B.** (2022). Effect of Bacillus megaterium var. phosphaticum applied together with rock phosphate on wheat yield and some soil properties in a calcareous soil. *Eurasian Journal of Soil Science*, 11(3), 198-205.

▪ **International Proceedings**

1. Kızılkaya, R., Aşkın, T., **Bayraklı, B.**, Sağlam, M., 2002. The relationships between heavy metal contents and microbiological characteristics in Bafra and Çarşamba Plain soils. International Conference on Sustainable Land Use and Management. 10-13 June 2002, Çanakkale, Turkey.
2. Kızılkaya, R., Hepşen, F.Ş., Akça, İ., **Bayraklı, B.**, Aşkın, T., Türkmen, C., (2009) “Determination of total and mobile Pb fractions during vermicomposting in sewage sludge”, *International Symposium On Environment – 2009*, 20-23 May 2009, Kyrgyzstan.
3. **Bayraklı, B.**, R. Kızılkaya, (2010) “Effect of zinc contamination with and without sewage sludge on soil dehydrogenase activity”, *In: Proceedings of the International Soil Science Congress on Management of Natural Resources to Sustain Soil Health and Quality*. R.Kızılkaya, C.Gulser, O.Dengiz (eds.), May 26-28, 2010. Ondokuz Mayıs University, Samsun, Turkey. pp. 566-572
4. Kızılkaya, R., F.Ş. Hepşen Türkay, **B. Bayraklı**, T. Aşkın, C. Türkmen, İ. Akça, V.Ceyhan, (2010) “Enzyme and earthworm activities during vermicomposting in sewage sludge”, *In: Proceedings of the International Soil Science Congress on Management of Natural Resources to Sustain Soil Health and Quality*. R.Kızılkaya, C.Gulser, O.Dengiz (eds.), May 26-28, 2010. Ondokuz Mayıs University, Samsun, Turkey. pp. 1047-1054.
5. **Bayraklı, B.**, Kızılkaya R. 2014. Changes in Microbial Biomass, Soil Respiration And Enzyme Activities in Zn Contaminated Soil Under Field Condition. 9. International Soil Science Congress On “The Soul Of Soil And Civilization” Soil Science Of Turkey Cooperation With Federation Of Eurasian Soil Science Societies. 14-16 October, 2014 Side, Antalya/Turkey.



DR. BETÜL BAYRAKLI
Agricultural Engineer (PhD)



6. **Bayraklı, B.**, Gülser, C., Kesim E. 2015. Effects of Hazelnut Husk Applications on Some Soil Properties in a Hazelnut Orchard. International Soil Science Congress on “Soil Science in International Year of Soils 2015” . Abstract Book s:39. Sochi/ RUSSIA
7. Özyazıcı, G., Özyazıcı, M., **Bayraklı, B.**, 2017. Influence of Organic Fertilizer and Soil Amendments on Some Soil Biological Properties. International Conference On Agriculture, Forest, Food Sciences and Technologies, 15-17 May 2017 , Kapadokya
8. **Bayraklı B.**, Dengiz O., Öztürk E., İç S., Erkoçak A., Kesim E., Kars N., Birol M. 2018. Identification of Suitable Micro Catchments for Organic Agriculture Using GIS and Remote Sensing in East Part of the Black Sea Region. International Soil Science Congress on “Environment and Soil Resources Conservation”.pp:22-34 17-19 October, Almaty / Kazakhstan.
9. **Bayraklı, B.** and Dengiz, O., 2019. Determination of Heavy Metal Risk and Their Enrichment Factor in Intensive Cultivated Soils of Tokat Province. Abstract Book of 10th International Soil Congress 2019, Successful Transformation toward Land Degradation Neutrality: Future Perspective, 17-19 June, ANKARA.
10. **Bayraklı, B.**, Dengiz O., Öztürk E., İç S. Bioaccumulation of heavy metals by selected some plants cultivated in central and eastern black sea region. III. Balkan Agriculture Congress, Edirne, Turkey, 29 August - 1 September, 2021, Bildiri Kitabı, s. 395-405.

▪ **NATIONAL ARTICLES AND PROCEEDING**

▪ **Published articles in national refereed journals scanned by ULAKBİM**

1. Aşkın, T., Kızılkaya, R., Gülser, C., **Bayraklı, B.**, 2004. Ondokuz Mayıs Üniversitesi kampüs topraklarının bazı mikrobiyolojik özellikleri. Ondokuz Mayıs Üniv. Ziraat Fak. Dergisi 19(1):31-36.
2. Kızılkaya, R., **Yirmibeşoğlu, B.**, Özdemir, N., Aşkın, T., 2001. Topoğrafyanın toprakların bazı mikrobiyolojik özelliklerine etkileri. Ondokuz Mayıs Üniv. Ziraat Fak. Dergisi. 16 (1) : 27-34
3. Özyazıcı, M.A., Aydoğan, M., **Bayraklı, B.**, Dengiz, O., 2013. Doğu Karadeniz Bölgesi Kırmızı-Sarı Podzolik Toprakların Temel Karakteristik Özellikleri ve Verimlilik Durumu. Anadolu Tarım Bilim. Derg., 28(1):24-32.
4. Özyazıcı, M.A., Dengiz, O., Aydoğan, M., **Bayraklı, B.**, Kesim, E., Urla, Ö., Yıldız, H., Ünal, E. 2016. Orta ve doğu karadeniz bölgesi tarım topraklarının temel verimlilik düzeyleri ve alansal dağılımları. Anadolu tarım bilimleri dergisi. 31(1) : 136-148.
5. **Bayraklı, B.**, Özyazıcı, G., Özyazıcı, M. A., 2017. Samsun İlinden Toplanan Farklı Nodozite Bakteri Kültürü İle Sera ve Tarla Koşullarında Aşılamanın Soya Fasulyesi (Glycine max L.)'nin Verimine ve Azot Kapsamına Etkisi. Türkiye Tarımsal Araştırmalar Dergisi, 4(2):131-142
6. **Bayraklı, B.** Kaya fosfat ve TSP gübresi ile uygulanan Micrococcus luteus AR-72'nin toprağın bazı biyolojik özellikleri, NO3 ve alınabilir P içeriğine etkisi. *Toprak Bilimi ve Bitki Besleme Dergisi*, 8(2), 157-166.

▪ **Published Articles in National Journals**

1. **Bayraklı, B.**, Kızılkaya, R. 2014. Zn İle Beraber Yapılan Aritma Çamuru Uygulamasının Toprakların Biyolojik Özelliklerinde Meydana Getirdiği Değişimlerin Belirlenmesi. *Vestnik* № 2 (30).



DR. BETÜL BAYRAKLI Agricultural Engineer (PhD)

TAGEM
R&D AND INNOVATION

▪ National Proceedings

1. Özyazıcı, M.A., Özdemir, O., **Bayraklı, B.**, Özyazıcı, G., 2007. The effects of faba bean (*vicia faba* L.) grown as forage or green manure in maize-wheat rotation on Fe, Cu, Zn and Mn availabilities in soil. Atatürk Üniv. Ziraat Fakültesi Tarla Bitkileri Bölümü ve Tarla Bitkileri Bilimi Derneği Türkiye VII. Tarla Bitkileri Kongresi, Bildiriler-2, Çayır Mera Yem Bitkileri ve Endüstri Bitkileri, s.380-383, 25-27 Haziran 2007, Erzurum, **25-27 Haziran 2007, s.380-383, Erzurum.**
2. Özyazıcı, M.A., Özyazıcı, G., Özdemir, O., **Bayraklı, B.**, 2007. The effects of green manure applications on the some of the plant micronutrients (Fe,Cu,Zn,Mn) content of maize and wheat . GAP V. Tarım Kongresi, s. 390-398, 17-19 Ekim 2007, Şanlıurfa.
3. Özdemir, O., Özyazıcı, M.A., **Bayraklı, B.**, Özyazıcı, G., 2008. Evaluation of potential nutrition problem and fertility status of the wheat grown soils of Samsun region 4. Ulusal Bitki Besleme ve Gübre Kongresi, s. 548- 553, 8-10 Ekim 2008, Konya.
4. Özyazıcı, M.A., **Bayraklı, B.**, Özyazıcı, G. and Özdemir, O., 2009. Some properties of wheat and rice grown agricultural soils in Samsun province and their plant available microelement contents. Ülkesel Tahıl Sempozyumu, s. 891-898, 2-5 Haziran 2008, Konya.
5. Kızılkaya, R., F.Ş. Hepşen Türkay, **B. Bayraklı, A.** Erkoçak, (2010) "Fındık zurufu ve ahır gübresi ile vermikompostlanmış arıtma çamurunun buğday bitkisinin verim ve Zn, Cu ve Ni kapsamına etkisinin belirlenmesi", 1. *Ulusal Toprak ve Su Kaynakları Kongresi*. 1-4 Haziran 2010. Eskişehir.
6. Özyazıcı, M.A., **Bayraklı, B.**, Özyazıcı, G. and Kızılkaya, R., 2010. The effect of green manure applications by faba bean on urease and dehydrogenase enzyme activity of soils after harvesting. Türkiye VIII. Tarla Bitkileri Kongresi, Cilt I Sunulu Bildiriler, Nobel Yayın No: 1505, Fen Bilimleri: 103, s. 661-665, 19-22 Ekim 2009, Hatay.
7. Özyazıcı, M.A., Aydoğan, M., **Bayraklı, B.**, Üstün, G.Y., Özyazıcı, G. Ve Özdemir, O., 2011. Samsun İlinde Buğday Tarımı Yapılan Toprakların Verimlilik Durumu ve Potansiyel Beslenme Problemlerinin Ortaya Konulması. 9. Tarla Bitkileri Kongresi, 12-15 Eylül 2011, Serin İklim Tahılları Bildiriler Kitabı (Poster Bildiriler), Cilt 1, s.320-324, Bursa.
8. Özyazıcı, G., **Bayraklı, B.**, İç, S., 2013. The organic tomatoes cultivation the effects of previous plant and organic fertilizers some biological characteristics of soils. Türkiye V. Organik Tarım Sempozyumu, s.155-161, 25-27 Eylül 2013, Samsun.
9. Özyazıcı, G., **Bayraklı, B.**, İç, S., Pekşen, A., 2013. The effects of previous plant and organic fertilizers on yield, nutrient status and some chemical characteristics of soils in the organic red pepper cultivation. Türkiye V. Organik Tarım Sempozyumu, s.162-169, 25-27 Eylül 2013, Samsun.
10. Özyazıcı, G., Özyazıcı, M.A., **Bayraklı, B.**, Özdemir, O., 2013. The effects of soil conditioner and organic manure applications on yield and macro and micro element contents of soils in organic kiwifruit cultivation. III. Ulusal Toprak ve Su Kaynakları Kongresi, s. 146-156, 22-24 Ekim 2013, Tokat.
11. Özyazıcı, G., **Bayraklı, B.**, Özyazıcı, M.A., 2013. The winter vegetable cultivation on the effects of nitrogenous fertilizer and gytja levels on yield, nitrate content and some chemical characteristics of soils.
12. III. Ulusal Toprak ve Su Kaynakları Kongresi, s.201-212, 22-24 Ekim 2013, Tokat.
13. Özyazıcı, G., Ardalı, Y., **Bayraklı, B.**, 2013. Yapay Sulak Alan Bitkilerinin Besin Maddesi Alımı Yönünden Karşılaştırılması. III. Ulusal Sulak Alanlar Kongresi (Poster bildiri) 23-25 Ekim 2013, Samsun.
14. **Bayraklı, B.**, Kesim, E., Dengiz, O. 2019. Determination of heavy metal risk and enrichment factor in some micro catchments used for tea cultivation. Abstract Book of 6th Congress on Soil and Water Resources with International Participation, 12-14 November, İZMİR