



**TAGEM**  
R&D AND INNOVATION

DIRECTORATE OF PLANT PROTECTION CENTRAL  
RESEARCH INSTITUTE/ANKARA

## Orhan BÜYÜK, MSc Agricultural Engineer

### EDUCATION

- MSc** 2009-2011 Namık Kemal University  
Faculty of Agriculture/Plant Protection
- Bachelor's Degree** 1985-1989 100. Yıl University  
Faculty of Agriculture/Plant Protection

### CAREER

- 2001- Agricultural Engineer, Directorate of Plant Protection  
Central Research Institute- ANKARA
- 2001-1999 Agriculture Engineer, TAGEM, General Directorate of  
Agricultural Research And Policies - ANKARA
- 1997-2001 Teacher, MEB
- 1994-1997 Agriculture Engineer, Private Sector ANKARA


### ABOUT ME

He was born in 1967 in Elazığ. He graduated from Yüzüncü Yıl University, Faculty of Agriculture, Department of Plant Protection in 1989. After his military service, he worked in the private sector and government institutions until 2000. He has worked in the Department of Phytopathology, Cereal Diseases and Mycotoxin Laboratory of Ankara Plant Protection Central Research Institute since February 2001. In 2011, he completed his master degree on "Research on Zearalenone Toxin and Pectolytic Enzymes Caused by *Fusarium verticilloides*, the Factor of Cob Rot in Corn". He still works in the same laboratory. He is married and has 2 children.

### CONTACT

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# Orhan BÜYÜK, MSc Agricultural Engineer



## ■ **PROJECTS**

### ■ **Projects Conducted**

1. Determination of the Reactions of Some Barley Genotypes to Leaf Spot [*Rhynchosporium commune* (Zaffarano, McDonald&Linde)] in Field Conditions.
2. Determination of the Reactions of the Genotypes Developed in the Marmara Region Corn Breeding Studies Against *Fusarium moniliforme*, which Causes Stalk and Root Rot Disease (1st Slice)
3. Synthesis of Mandelic Acid Esters, Determination of Insecticidal and Fungicidal Activities.
4. Preparation of Collections and Catalogue of Pathogenic Bacteria, Fungi and Viruses in Plants.
5. Development of Double Lines Resistant to Northern Leaf Blight (*Exserohilum turcicum* Pass.) Disease in Maize (*Zea mays* L.) Using In Vivo Dihaploid and Molecular Marker Technologies.
6. Pathogenic Morphological Characterization and Molecular Identification of Northern (*Exserohilum turcicum* (Pass)) and Southern (*Bipolaris maydis*(Nisk.&M'yale) Corn Leaf Blight Diseases.
7. Determination of Resistance Formation Against Azole and Strobilurin Group Fungicides in Some Populations of Septoria Leaf Spot Causal Agent (*Zymoseptoria tritici* Rob. ex. Desm).
8. Detection, Prevalence and Determination of Varietal Reactions of Nomadic Disease Agent (*Gaeumannomyces graminis* [Sacc.] Arx & Oliver var. *tritici* [J.Walker]) in Wheat Production Areas of Central Anatolia Region.
9. The Prevalence, Pathotypes and Reactions of Some Varieties of Septoria Leaf Spot Disease (*Septoria tritici* Rob. ex. Desm.) in Wheat Planting Areas of the Central Anatolia Region.
10. Determination of the Pathotypes of *Rhynchosporium secalis* [Oudem (J.J. Davis)] and Investigation of Control Opportunities in Barley Leaf Spot Disease in Barley Cultivated Areas in Central Anatolia Region.
11. Project for Determination of Genotypes Resistant to Root and Crown Diseases, Appropriate Cultivation Techniques and Chemical Control in Wheat.

### ■ **Ongoing Projects**

1. Detection of Rust Diseases (*Puccinia* spp.) in Oat Planting Fields and Determination of Resistance of Some Oat Genotypes to Black Rust (*Puccinia graminis* f. sp. *avenae*) Disease Breeds.
2. Possibilities of Implementation of Medicines with Unmanned Aerial Vehicles.
3. Determination of the Reactions of the Genotypes Developed in the Marmara Region Corn Breeding Studies against *Fusarium moniliforme*, which causes Stalk and Root Rot Disease (Section 2)
4. Development of Stalk and Ear Rot (*Fusarium moniliforme*=*F. verticillioides*) Resistant Lines in Corn (*Zea mays* L.) Using Folded Haploid and Molecular Marker Techniques.
5. Investigation of Biological Efficacy of Miravis Era/Demita Plant Protection Product Against Fusarium Head Blight Disease (*Fusarium graminearum*, *F. culmorum*) in Wheat (Associate Researcher, Private Sector, 2022-2025)
6. National Winter Wheat Breeding Studies Coordination (Determination of resistance against root and root rot disease factors, Associate Researcher,, TAGEM, 2023-2027)
7. 4. Studies on the standard drug trial method as a basis for the investigation and control of the biological effectiveness of Afla Guard (*Aspergillus flavus* NRRL 21882) against *Aspergillus parasiticus* in maize (Associate Researcher, Private Sector, 2022-2024)
8. 5. Diagnosis and Determination of the Prevalence of Factors Causing Spreading Disease (*Tilletia* spp) in Cereals (Associate Researcher, GKGM, 2023-2025)



▪ **PUBLICATIONS**

▪ **INTERNATIONAL ARTICLES AND PAPERS**

▪ **Articles Published in International Journals**

▪ **1st Group Magazines (Published in journals covered by SCI, SCI-Expanded, SSCI or AHCI)**

1. Büyük O., 2019. Detection of *Exserohilum turcicum* [(Pass.) KJ Leonard & Suggs] strain causing northern leaf blight of maize in Turkey. Società Italiana di Patologia Vegetale (S.I.Pa.V.) 2019,
2. Turgay E B., Büyük O., Ölmez.F, Yıldırım A. F., 2016. Determination and molecular diagnosis of *Septoria* leaf spot disease [*Zymoseptoria tritici* (Desm. Quaedvlieg & Crous)] in Wheat in Central Anatolia Region. Bulletin of Plant Protection, volume: 56 issue 3.
3. Tunalı B., Berner D., Büyük O., Kansu B., 2015. *Boeremia exigua* var as Biological Agent in Kekre Control. Evaluation of rhapontica. Biological control, 81 , pages 65-75.
4. Büyük O., Ozer N., 2013. Reactions of Native Corn Varieties to *Fusarium verticilloides* in terms of disease severity, pectolytic enzyme and zearalenone production. The Journal of Turkish Phytopathology.
5. Berner D., Tunalı B., Yıldırım A., **Büyük O.**, 2011. Mutual benefits through formalized international collaboration on biological control of weeds with plant pathogens. Tunisian Journal of Plant Protection, 6: 49-74.
6. Tunalı B., Nikol J., **Büyük O.**, Uçkun Z., Erdurmuş D., 2008. Root and crown rot fungi associated with spring, facultative, and winter wheat in Turkey. Plant Diseases, 92-1299-1306.
7. Tunalı,B., Nicol, J., Hodson, D., Uçkun, Z., Erdurmuş.D, **Büyük O.**, Hekimhan, H., Aktaş, H., Akbudak, M.A., Bağcı, S.A., 2008. Root and crown rot fungi associated with spring, facultative, and winter wheat in Turkey. Plant Disease, 92:1299-1306.
8. Tunalı, B., Özseven, İ., **Büyük O.**, ERDURMUŞ.D, Demirci, A., 2006. Fusarium head blight and Deoxynivalenol accumulation of wheat in Marmara region and reactions of wheat cultivars and lines to *F. graminearum* and *F. culmorum*. Plant Pathology, 5.
9. Nikol .J, Özseven İ., **Büyük O.**, Hekimhan H., Tülek A., Yıldırım F., 2004. 2003 yılından sonra Türkiye–CIMYT işbirliği ile kök çürüklüğü ve nematod araştırmalarında ki gelişmeler. Annual Wheat Newsletter, Kansas State University, Volume: 50, s.172-176.



## Orhan BÜYÜK, MSc Agricultural Engineer



### ▪ NATIONAL ARTICLES AND PAPERS

#### ▪ Articles Published in National Journals

1. Büyük O., Babaroğlu E N., 2018. In Ankara, Eskişehir and Konya provinces, *Gaeumannomyces* disease [*Gaeumannomyces graminis* (Sacc.) Arx & Oliver var. *tritici* Walker] and disease reactions of some wheat cultivars. *Plant Protection Bulletin*, 58/3.
2. Büyük O., 2017. In important maize (*Zea mays* L.) areas in Turkey, Northern [*Exserohilum turcicum* (Pass.) K.J. Leonard & Suggs] and Southern [*Bipolaris maydis* (Y.Nisk. & C. Miyake) Shoemaker] prevalence of corn leaf blight diseases. *Plant Protection Bulletin*, 57/3.
3. Yıldırım A. F., Büyük O., Turgay E B., 2017. Embryo Darkening and Fighting Possibilities in Wheat. *Harman Time*, April 2017, Issue 50. pages 72-74.
4. Yıldırım A F., Büyük O., Ünal F., 2016. Determination of the Reactions of Genotypes Developed in Corn Breeding Studies in the Marmara Region Against Stem and Head Rot Disease (*Fusarium moniliforme*) . *Plant Protection Bulletin*, 56 (1): 97-113.
5. Büyük O., Ozer N., 2012. Investigations on Zearalenone Formation of *Fusarium verticillioides*, the Root Rot Casual Agent, in Corn Planting Areas in the Western Black Sea Region. *Plant Protection Bulletin*, 52-4.
6. Unal F., Araz A., , Büyük O., 2016. Past, Present and Struggle of Root and Root Throat Diseases in Cool Climate Cereals. book, 104 pages. Turgay E B., Büyük O., 2016. Septoria Leafspot Disease in Wheat (*Septoria tritici*), 2016. *Harman Time*.
7. Unal F., Büyük O., Evlice E., 2012. Rice Farming (Chapter Author and Editor)- Revision. Department of Education, Extension and Publications, Farmer Education Series, 79 pages.
8. Sürek H., Kaçmaz N., Ünal F., Büyük O., Kepenekci İ., Evlice E., Karataş S., 2010. Rice Farming (Chapter Author and Editor) . Department of Education, Extension and Publications, Farmer Education Series, 58.

#### ▪ National Papers, Seminars, etc.

1. **Büyük O.**, Erdurmuş D., Tunalı B., 2005 The Importance of Fungal Diseases in Cereal Seed Certification. Turkey II. Seed Congress Proceedings and Posters. Adana, 9-11 November 2005.



▪ **Publications in Proceedings of Refereed Conferences/Symposiums**

1. Ünal F., **Büyük O.**, Ertek T S., 2019. First Report of Rice Sheath Blight Disease Caused by *Rhizoctonia solani* AG-1 IA in Turkey.. II. Uluslararası Tarım Kongresi Bildiri Kitapçığı, 21-24 Kasım 2019, Ankara, s16.
2. Ünal F., **Büyük O.**, 2018. *Alternaria* Species Isolated from Turfgrass Areas in Turkey. International Agricultural Sciences Congress. 9-12 May 2018 Van/Turkey.
3. Araz A., **Büyük O.**, Hekimhan, H., 2017. Determination of the Prevalence of Barley Leaf Spot (*Rhynchosporium commune* (Zaffarano, Mcdonald&Linde)] Disease in Ankara, Konya and Eskişehir provinces in the Central Anatolia Region in 2013 and 2014. II. Symposium with International Participation, 9-11 October 2017, Iğdır-Turkey.
4. Kansu B., **Büyük O.**, Aksu P., 2011. The Determination Of Mycotoxin Producing Ability of Some Endophytic and Pathogenic *Fusarium* Isolates From Wheat Samples in Turkey . 4'üncü International Congress on Food and 2. Mediterranean Workshop on Mycotoxins and Toxigenic Fungi (12-14 October 2011, İstanbul-TURKEY.
5. Tunalı B., **Büyük O.**, Erdurmuş D., 2009. Determination of Fungal Flora in Corn Planting Areas in Central and Western Black Sea Region and Investigation of Deoxynivalenol Formation Status of *Fusarium* spp. III. Plant Protection Congress VAN., p.136.
6. Altıparmak, G., **Büyük O.**, ERDURMUŞ.D, Tunalı, B., 2009. Determination of Fungal Flora and Investigation of Deoxynivalenol Formation of *Fusarium* Spp. in Corn Planting Areas in Central and Western Black Sea Region. Turkey III. Plant Protection Congress proceedings, 15-18 July 2009, Van, 136.
7. **Büyük O.**, Altıparmak G., Tunalı B., Erdurmuş D., National Resilience Breeding Studies for Control of Some Important Diseases of Wheat and Barley. . Turkey II. Plant Protection Congress Proceedings, Page 336. 2007.
8. Nicol, J., Tunalı, B., ERDURMUŞ.D, **Büyük O.**, Hekimhan, H., Bağcı, S.A., Yıldırım, A.F., 2006. CIMMYT and Turkey's International Shuttle Breeding Program To Develop Wheat Lines With *Fusarium* Crown Rot And Other Soil Borne Pathogen Resistances. The Global *Fusarium* Initiative for International Collaboration: A Strategic Planning Workshop; March 14 - 17, 2006, At CIMMYT, El Batán, Mexico, 110-116.
9. Nicol, J., Tunalı, B., ERDURMUŞ.D, **Büyük O.**, Hekimhan, H., Tülek, A., Yıldırım, A.F., Bağcı, S.A., 2005. The International Breeding Strategy for the Incorporation of Resistance in Bread Wheat Against the Soil Borne Pathogens (Dryland Root Rot and Cyst and Lesion Cereal Nematodes) Using Conventional and Molecular Tools. Wheat Production in Stressed Environments: Proceedings of the 7th International Wheat Conference, Mar del Plata, Argentina, pp.125-137.
10. Erdurmuş.D, **Büyük O.**, , 2005. The Importance of Fungal Diseases in Cereal Seed Certification. Turkey II. Seed Congress Proceedings and Posters. Adana, 9-11 November 2005.
11. Tunalı B., Lomer C., Kodan M., **Büyük O.**, Erdurmuş D., 2004. Studies on the In Vitro Effects of *Beauveria bassiana* (Balsamol, Vuillemin) Against *Eurygaster maura* L.. I. Plant Protection Congress 8-10 September Samsun, p. 31.
12. Tunalı, B., Erdurmuş.D, Özseven, İ., **Büyük O.**, Araz,A., 2004. Effects of Fungicides Applied at Anthesis on *Fusarium* Head Blight And Deoxynivalenol in Wheat in Ankara And Sakarya Provinces. 2nd International Symposium on *Fusarium* Head Blight, Orlando, USA,



13. Tunalı, B., Özseven, İ., **Büyük O.**, Erdurmuş, D., 2004. Fusarium Head Blight Reactions and Accumulation of Deoxynivalenol(DON) And Effect on Quality Of Wheat . 2nd International Symposium on Fusarium Head Blight, Orlando, USA, .
14. Tunalı, B., Lomer, C., Kodan, M., **Büyük O.**, Erdurmuş, D., 2004. Investigations on the in-vitro effects of *Beauveria bassiana* (Balsamol, Vuillemin) against *Eurygaster maura* L.. Turkey I. Plant Protection Congress Proceedings, 8-10 September 2004, Samsun.
15. Tunalı, B., Erdurmuş, D., Özseven, İ, **Büyük O.**, Araz A., 2004. Effects of Fungicides applied at anthesis on Fusarium head blight and Deoxynivalenol in wheat in Ankara and Sakarya provinces. 2nd International Symposium on Fusarium Head Blight. Incorporating the 8th european Fusarium Seminar Orlando. , Fusarium Seminar Orlando December 11-15. Volume: 2.
16. Ünal F., Tülek S., , **Büyük O.**, Çelik E., . Nigrospora Blight in Turfgrass Areas in Turkey . 1st International Molecular Plant Protection Congress Proceeding Book, 10-13 April 2019, Adana Turkey. , p:93.
17. Erdoğan Bağçeci, S., **Büyük O.**, Seidi Arslan, M., Akci, N., Urin, V. 2022. The Effectiveness of *Trichoderma* spp. against The Important Causal Agents of Corn Root Rot Diseases in In-Vitro Conditions. 8 th International Cereal Nematodes Symposium, 26-29 September, Bolu, Türkiye, pp:121. www.isbPPP.org.
18. Akci, N., Seidi Arslan, M., Erdoğan Bağçeci, S., **Büyük O.**, Kahraman, T. Çeri, S. 2022. Determination of The Reaction of Some Oat Cultivars to *Fusarium equiseti* Causing by Root Rot Disease. 8 th International Cereal Nematodes Symposium, 26-29 September, Bolu, Türkiye, pp:337. www.isbPPP.org
19. Urin, V., Akci, N., **Büyük O.**, Erdoğan Bağçeci, S., Seidi Arslan, M. Esmeray, M. 2022. Determination of The Reaction of Some Maize Genotypes to Ear Rot Disease Caused by *Fusarium verticilloides* .8 th International Cereal Nematodes Symposium, 26-29 September, Bolu, Türkiye, pp: 343. www.isbPPP.org
20. Seidi Arslan, M., Akci, N., **Büyük O.** Erdoğan Bağçeci, S., Çeri, S. Kahraman, T. 2022. Reactions of Root Rot (*Fusarium nygamai* Burgess & Trimboli 1986) Disease in Some Oat Varieties. 8 th International Cereal Nematodes Symposium, 26-29 September, Bolu, Türkiye, pp: 329. www.isbPPP.org
21. Duman, K., **Büyük O.**, Akci, N., Erdoğan Bağçeci, S., Seidi Arslan, M., Karahan, A. 2022. Preliminary Studies on Biological Control of Wheat Root Rot Diseases. 8th International Cereal Nematodes Symposium, 26-29 September, Bolu, Türkiye, pp: 321. www.isbPPP.org

▪ **OTHER PUBLICATIONS**

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

1. Researches on Zearalenone Toxin and Pectolytic Enzymes Caused by *Fusarium verticilloides*, Ear rot in Corn, Master Thesis 2011 TEKİRDAĞ



## Orhan BÜYÜK, MSc Agricultural Engineer



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

1. Definition, Analysis and Diagnosis Management Training of *Tilletia indica* ( Directorate Of Plant Protection Central Research Institute, 2021- Trainings Provided)
2. Presentation at the Online Meeting with China YAAS Academy (24.09.2021)
3. Wheat Import Meeting with Romania (27.08.2021)
4. Online Training on Corn Smut, Corn Leaf Blight, Root and Rot Diseases in Corn in the Plant Doctors Program organized by Antalya Provincial Directorate of Agriculture and Forestry (29-30.11.2021- Trainings Provided)
5. Presentation on Potential Collaboration between TAGEM and CIMMYT on Maize Programme (05.07.2021)
6. Ministry of Food, Agriculture and Livestock, Department of Education, Extension and Publications" Cereal Diseases April 2020'
7. Wheat Integrated Control In-Service Training (18-22 April 2022-Trainings Provided)

### ▪ Taking part in Scientific Activities (Scientific and Administrative)

1. Workshop on "New Approaches in the Control of Soil-Originated Pathogens with International Participation" (Presentation, 15.12.2021)