

Mohammad Moradi- Resume

Pistachio Research Center

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Education and qualification

- Ph.D. in Plant Pathology, Bonn University, Germany, 2004 - 2009

Thesis: Microbiological and molecular assessment of interactions among the major *Fusarium* head blight pathogens on wheat ears

- M.Sc. in Plant Protection, College of Agriculture, Shiraz University Course, Iran 1994-1997.

Thesis: Isolation and identification of *Phytophthora* species from crown and root of pistachio nut trees in Kerman and Fars provinces and determination of relative resistance of common pistachio rootstocks to them.

- B.Sc. Department of Plant Protection, College of Agriculture, Ahvaz University

Course; Plant protection, 1990-1994.

Membership of national and international societies

- Iranian Phytopathology Society, from 1998 until now.

Employment experience

2009- : Researcher at Pistachio Research Center (PRC)

2009- 2012 : National consultant in FAO TCP project; TCP/IRA/3104

2014- : Head of Plant Protection Department in PRC

Aware obtained

Ph.D. scholarship, Ministry of Agriculture, Tehran, Iran

Conducted research projects.

1. **Moradi, M.**, et al. 2016. Long term control pistachio crown and root rot using chemical, cultural and biological approaches.
2. **Moradi, M.**, et al. 2013. Management strategy of toxigenic strains of *Aspergillus flavus* in pistachio growing areas of Iran (2011-2013). Final report of IPRI. 45pp.
3. **Moradi, M.** et al. 2013. The influence of parameters affecting *Aspergillus flavus* and aflatoxin production during storage of pistachios (2010-2013). Final report of IPRI. 38pp.
4. **Moradi, M.** et al. 2013. Assessment of application of systemic and protective fungicides for long-term control of pistachio crown and root rot (2009-2013). Final report of IPRI. 33pp.
5. **Moradi, M.** et al. 2013. Study of leaves chlorosis problem of pistachio trees in Keshtkhan of Ardakan and presentation of proper suggestions in solving this problem (2009-2013). Final reports of IPRI. 76pp.
6. Mohammadi M., **Moradi, M.** 2008. Study of pistachio contamination in processing terminals of Semnan province and evaluation of pistachio cultivars to *Aspergillus flavus* and aflatoxin B1 (2005-2008). Final report of IPRI. 25pp.
7. Tajabadi, A., **Moradi, M.** 2005. Breeding of pistachio rootstocks (2000-2005). Final report of IPRI. 70pp.
8. **Moradi, M.**, and Javanshah, A. 2004. Distribution of aflatoxin in processed pistachio nut terminals and pistachio bulks, (2002-2004). 15pp
9. **Moradi, M.**, and Ershad, J. 2004. Density fluctuations of *Aspergillus* spp. in pistachio production processing in Kerman province during (1998-2004), (Ecology and Biology). Final report of IPRI, 55pp.
10. Salehi, F., and **Moradi, M.** 2004. Effects of inoculation VAM on the drought and salinity stress in pistachio seedlings.

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11. **Moradi, M.**, Tajabadi, A., and Banihashemi, Z. 2002. Relationship among date of hull splitting, appearance of pistachio nuts and their contamination to *Aspergillus* species and aflatoxin. Final report of IPRI (1999-2002), 19pp.
12. **Moradi, M.**, Banihashemi, Z. 2002. Study on the biology of *Phytophthora* spp., and their biological control. (1997-2002). Final report of IPRI, 24pp.
13. Tajabadi, A., **Moradi, M.** and Banihashemi, Z. 2002. Relative resistance of new pistachio hybrid to *Phytophthora* spp. and root knot nematode (controlled pollination between wild species and *Pistacia vera* Qazvini cultivar). Final report of IPRI.
14. Tajabadi, A., **Moradi, M.** 2005. Breeding of pistachio rootstock. Final report of IPRI.

Publications

Book or Booklet

1. **Moradi, M.**, Hokmabadi, H. 2011. The Control of Mycotoxigenic Fungi in Nuts: Farm to Fork” 18 pages, in Ö. Tokusoglu & C. Hall III. (Eds): “Fruit and Cereal Bioactives: Sources, Chemistry & Applications”. CRC Press.
2. Barkai-Golan, P., and Paster, N. 2008. Mycotoxins in Fruits and Vegetables. Elsevier Inc. (396 pp). Translated to Persian by: Afsharipour, H., **Moradi, M.**, and hokmabadi, H. 2010. Published by Islamic-Azad University.
3. Moradi, M., Tajabadi, A., Sedaghati, N., Hosseini-Fard, J., Esmailpour, A., Mirdamadiha, F., and Mohammadi, A. 2008. Factors affecting contamination of pistachios by *Aspergillus* species and aflatoxin. Booklet of IPRI (In Farsi), Rafsanjan-Iran. 30 pp.
4. **Moradi, M.** 1999. Distribution of aflatoxin B1 in the pistachio nuts as measured by Enzyme-Linked immunosorbent assay (ELISA) at pre-harvest and postharvest. Booklet of IPRI (In Farsi and English), 13 pp.
5. **Moradi, M.** 1999. Pistachio diseases. In: Introduction of pistachio Pests and Diseases. Booklet of IPRI (in Farsi), pp. 43-57, IPRI Press, Rafsanjan, Iran.

Peer reviewed publications

1. **Moradi, M.**, Oerke, E.-C., Steiner, U. and Dehne, H.-W. 2017. Improved procedure for inoculum production of *Fusarium* species. Applied Entomology and Phytopathology, 84 (2): 21-31.
2. **Moradi, M.**, Mohammadi A.H. and Hagedel, M. 2017. Efficiency of Elite fungicide for control of pistachio gummosis. Journal of Nuts. 2017; 8 (1): (In press).
3. **Moradi, M.**, Fani, SR., Dargah, R., Mohamadi-Moghadam, M., Sherafathi, A. 2017. A simple procedure to evaluate competitiveness of toxigenic and atoxigenic isolates of *Aspergillus flavus* in solid and liquid media. Journal of Chemical Health Risks. (Accepted).
4. Fotoohiyan, Z., Rezaee, R., Shahidi Bonjar, G.H., Mohammadi, A.H. and **Moradi, M.** 2017. Biocontrol potential of *Trichoderma harzianum* in controlling wilt disease of pistachio caused by *Verticillium dahlia*. Journal of Plant Protection Research. (Accepted).
5. Aminizadeh S, Hossein A, Ebrahim S, Mohammad M. and **Moradi, M.** 2016. Arbuscular mycorrhizal fungi associated with pistachio trees in Rafsanjan. JPST. 1 (2) :1-21
6. Fotoohiyan, Z and **Moradi, M.** 2017. Growth promotion and defense activation by *Trichoderma* species in pistachio seedlings against *Verticillium dahlia*. Journal of Environmental Science and Management (Accepted).
7. **Fathi, F.**, Saberi-Riseh, R. and **Moradi, M.** 2016. Efficacy of *Pseudomonas* strains on moderate drought stress on growth and physiological characteristics of pistachio cultivars. Biological Control of Pest and Plant diseases, 5: 163-176.
8. Klah Namadi, M., Sedaghati, E., **Moradi, M.** and Alae, H. 2016. Effects of some bio-ecological factors on natural symbiosis of arbuscular mycorrhizal fungi with potato in West Azarbaijan Province. Biological Control of Pest and Plant diseases, 5: 67-78.

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9. Mahmoodi meymand, B., Saberi Riseh, R., Moradi, M., Alaei, H., Mohammadi, A.H. 2016. Induction of plant defense response against *Phytophthora* crown and root rot in pistachio by fluorescent *Pseudomonas* strains. *Iranian Journal of Plant Protection Science*, 47:93-105 .
10. Fotoohiyan, Z., Rezaee, R., Shahidi Bonjar, G.H., Mohammadi, A.H. and **Moradi, M.** 2015. Induction of Systemic Resistance by *Trichoderma harzianum* Isolates in Pistachio Plants infected with *Verticillium dahlia*. *Journal of Nuts* 6:95-111.
11. Fotoohiyan, Z., Rezaee, R., Shahidi Bonjar, G.H., Mohammadi, A.H. and **Moradi, M.** 2015. Production of chitinases and β -1, 3-glucanases by *Trichoderma harzianum* isolates for control of *Verticillium dahliae* in pistachio wilt. *IJBPAS*, 4(12): 1210-1238.
12. Fani, S. R., **Moradi, M.**, Zamanizadeh, H., Mirabolfathy, M. and Claudia, P. 2014. Distribution of Nontoxigenic strains of *Aspergillus flavus* throughout pistachio growing areas in Iran. *Applied Entomology and Phytopathology*, 81 (2).
13. Fani, S. R., **Moradi, M.**, Probst, C., Zamanizadeh, H. R., Mirabolfathy, M., Haidukowski, M., & Logrieco, A. F. (2014). A critical evaluation of cultural methods for the identification of atoxigenic *Aspergillus flavus* isolates for aflatoxin mitigation in pistachio orchards of Iran. *European Journal of Plant Pathology*, 140(4), 631-642.
14. Khatamidoost, Z., Jamali, S., **Moradi, M.**, & Saberi Riseh, R. (2015). Effect of Iranian strains of *Pseudomonas* spp. on the control of root-knot nematodes on Pistachios. *Biocontrol Science and Technology*, 25(3), 291-301.
15. **Moradi, M.**, Fani, S. R. and Hokmabadi, H. 2015. A Study Concerned with the Factors Affecting the Fungal Growth and Aflatoxin Production During Storage of Pistachio in Kerman Province. *Food Technology and Nutrient*, 12:83-92.
16. **Moradi, M.**, Fani, S. R. and Massomi, H. 2015. Population Density of *Aspergillus* Species Belong to Section Flavi and Nigri on Pistachio Nut in Kerman Province. *Journal of Applied Research in Plant Protection* 3:79-91.
17. Dargahi, R., **Moradi, M.**, Fani S. R. 2014. Evaluation of aflatoxin in different parts of pistachio fruit and processing stages. *Journal of Food Hygiene*, 3:21-31.
18. Fani, S. R., **Moradi, M.**, Esmailzadeh Hosseini, S. A., Dashtekian, K. and Sarpeleh, A. 2014. Efficacy of cyazofamid (SC 400) Fungicide in the Control of Downy Mildew of Greenhouse Cucumber. *Pesticides in Plan Protection Sciences*, 1: 103-114.
19. Fani, S. R, **M. Moradi**, A. Tajabadipour, R. dargahi, and M. Mirabolfathy. 2014. The role of early splitting in contamination of pistachio nuts by *Aspergillus* species and aflatoxin in kerman province. *Journal of Food Technology and Nutrient* 11: 97-105.
20. Fani, SR., **Moradi, M.**, Alipour, M., Sherafathi, A., Mohamadi-Moghadam, M., Sedaghati, E. and Khodaygan, P. 2014. Efficacy of *Trichoderma harzianum* native strains for biocontrol of pistachio gummosis. *Iranian Journal of Plant Protection Science*, 44: 243-252.
21. Fani, SR., Javanshah, J. **Moradi, M.** 2014. Prevalence of aflatoxin in Rafsanjan processed pistachios during 2011-12, and its relation with time of harvest. *Tolooe Behdasht*, 12 (4): 175-189.
22. Khodaygan, P., Moslemkhani, C., Shahbazi, R., **Moradi, M.**, & Habibi, H. 2013. Molecular identification of 16S rII phytoplasma group in commercial pistachio cultivars in Iran. *Archives of Phytopathology and Plant Protection*, (ahead-of-print), 1-8.
23. Shekari, F., Pour, A. H., Rezanejad, F., Shekarian, A., **Moradi, M.**, Bertaccini, A., & Maini, S. 2011. The preservation of lime witches' broom phytoplasma in key lime by tissue culture. *Bulletin of Insectology* 64 (Supplement): S201-S202, 2011
24. **Moradi, M.**, Oerke, E.-C., Steiner, U., Schellander, K. and Dehne, H.-W. 2010. Microbiological and SYBR Green real-time PCR detection of the major *Fusarium* head blight pathogens. *Microbiology* 79:646-654.
25. **Moradi, M.**, Hokmabadi, H., Mirabolfathy, M. 2010. Density fluctuations of two major *Aspergillus* species airborne spores in pistachio orchards growing regions of Iran. *International Journal of Nuts and related science*, 2010, 1: 60-70

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26. **Moradi, M.**, and Mirabolfathy, M. 2007. Changing of *Aspergillus* species populations in pistachio processing terminals. Iranian Journal of Pajouhesh and Sazandeghi 77: 104-110.
27. Salehi, F., **Moradi, M.**, Mirabolfathy, M. and Asgharzadeh, N. 2008. Influence of VAM inoculation and phosphorus levels on uptake of P, Zn, Ca, Mg elements and growth of pistachio seedlings. Iranian Journal of Pajouhesh and Sazandeghi 21: 48-56.
28. **Moradi, M.**, et al. 2004. The role of plant debris and manures on the density of population *Aspergillus* species in the pistachio orchards. Iranian Journal of Plant Pathology 40: 221-234, En 55-58.
29. Banihashemi, Z. and **Moradi, M.** 2004. The frequency of isolation of *Phytophthora* spp. from crown and root of pistachio nut tree and reaction of the crown and root to the causal agents. Iranian Journal of Plant Pathology 40: 57-77, En 13-17.

Papers in national or international symposiums

1. Mahmodi meymand, B, Saberi Riseh, R, **Moradi, M.**, Alaei, H, Mohammadi, A.H. 2016. Effects of bacterial strains on crown and root rot of pistachio trees. 1st Iran's Pistachio Conference. 347-355.
2. **Moradi M.**, Fani S.R. 2014. The influence of parameters affecting *Aspergillus flavus* and aflatoxin production during storage of pistachio in Iran. In *Proceeding of: International Conference of Mycotoxin 2014*, Beijing, China.
3. **Moradi M.**, Fani S.R. and Logrieco, A. F. 2013. The status of aflatoxin in pistachio. In *Proceeding of: ISM-MycoRed International Conference Europe*, Martina Franca, Italy.
4. Fani, S.R., **Moradi, M.** and Zamanizadeh, H. 2013. Partial Study of Aflatoxin Gene Cluster in Nontoxigenic *Aspergillus flavus* Isolates. 12th Iranian Genetics Congress. 5p.
5. Fani S.R., **Moradi M.**, Zamanizadeh H., Mirabolfathy M. and Probst C., P., and Logrieco, A.F. 2013. Distribution of atoxigenic *Aspergillus flavus* in pistachio nut and orchards soil in Iran. In *Proceeding of: ISM-MycoRed International Conference Europe*, Martina Franca, Italy.
6. Fani S.R., **Moradi M.**, Zamanizadeh H., Mirabolfathy M. and Probst C, Logrieco A.F. and Zaree Mahmoud-Abadi, M. 2013. Efficacy of atoxigenic strains of *Aspergillus flavus* for aflatoxin biocontrol in pistachio nuts. In *Proceeding of ISM-MycoRed International Conference Europe*, Martina Franca, Italy.
7. Rahmani, R., Sedaghati, E., Khodaygan, P., Saberi, R. and **Moradi, M.** 2012. Prevalence of *Aspergillus* species in vineyard in west Azerbaijan province. Acta Hort. (ISHS) 963:87-89.
8. Ghaffari, F., Masoomi, M., Mohammadi, H. and **Moradi, M.** 2012. Effect of antagonistic yeasts isolated from pistachio orchards against *Aspergillus flavus*. Acta Hort. (ISHS) 963:109-112.
9. **Moradi, M.**, Zamanizadeh, H., Fani, S.R. and Sedaghati, E. 2012. Specific identification of atoxigenic strains of *Aspergillus flavus* isolated from pistachio orchards of Iran and detection of aflD, aflR, aflJ, aflG and c3 region. Acta Hort. (ISHS) 963:95-97.
10. **Moradi, M.**, Dargahi, R., Sherafati, A., Fani, S.R., Sedaghati, E., Mohammadi-Moghaddam, M. and Mirabolfathy, M., 2011, September. Screening of Atoxigenic *Aspergillus flavus* Isolates in Pistachio Producing Areas of Iran. In *I International Symposium on Mycotoxins in Nuts and Dried Fruits 963* (pp. 91-93).
11. **Moradi, M.**, Fani, S.R. and Zamanizadeh, H., 2011. Comparison between Cultural Methods and TLC for Detection of Atoxigenic Strains of *Aspergillus flavus* Isolated from Iranian Pistachio. In *I International Symposium on Mycotoxins in Nuts and Dried Fruits 963* (pp. 33-35).
12. **Moradi, M.**, Oerke, E.-C., Steiner, U. and Dehne, H.-W. 2006. Interactions among *Fusarium* species in wheat ears. 55. Deutsche Pflanzenschutztagung, Geottingen Germany.
13. Homkabadi, H. and **Moradi, M.** 2007. Risk of superficial infection of *Aspergillus* spores in pistachio nut contamination by *Aspergillus* species. *The First Iranian Congress on Dried Fruit*, P: 61.
14. Hokmabadi, H., Tajabadi Pour, A., **Moradi, M.**, Sedaghati, N., Esmaeilpour, A., Shaker Ardekani, A., Mohamadi Moghadam, M., Mirdamadiha, F. and Arjmand, M. 2007. A part of Iranian Pistachio Research Institute (TPRI), Research funding related to pistachio hygienic production. Acta Horticulture 741:259-265.

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15. **Moradi, M.**, and Javanshah, A. 2006. Distribution of aflatoxin in processed pistachio nut terminals. *Acta Horticulture* 726: 431-436.
16. Mirabolfathy, M., **Moradi, M.** and Waliyar, F. 2006. Variability in aflatoxingenic potential and sclerotial production of *Aspergillus flavus* strains isolated from pistachio orchards. *Acta Horticulture* 726: 619-626.
17. Tajabadipour, A., **Moradi, M.** and Zadehparizi, R. 2006. Closed pollination for preparing interspecific hybridization of pistachio genus and determination of hybrid resistant to *Phytophthora drechleri*. *Acta Horticulture* 726: 637-642.
18. **Moradi, M.**, and Banihashemi, Z. 2002. Monthly fluctuations of *Phytophthora* spp. and isolation antagonist fungi and bacteria to pistachio gummosis. In Kerman province. *Applied scientific congress of pistachio*, Kerman, Iran. Pp: 65-66.
19. **Moradi, M.**, and Ershad, J. Mirabolfathy, M. 2002. Comparison of population density *Aspergillus* species and contamination to aflatoxin in different processing systems and the processed pistachio nuts. *Applied scientific congress of pistachio*, Kerman, Iran. pp: 67-68.
20. **Moradi, M.**, Massah, A., and Masomi, H. 2000. Enzyme-linked immunosorbent assay (ELISA) for aflatoxin B1 estimation in pistachio. *Proceeding of the 14th Iranian Plant Protection Congress*, Isfahan, Iran. P: 328.
21. **Moradi, M.**, and Banihashemi, Z. 2000. Isolation and identification of *Phytophthora* species from crown and root of pistachio trees in the Kerman and Fars provinces and determination of relative resistance of Gazvini, Sharacks and Badami rootstocks to them. *Proceeding of the 14th Iranian Plant Protection Congress*, Isfahan, Iran. P: 127.
22. **Moradi, M.**, and Ershad, J. 2000. Determination of density of the molds *Aspergillus* species in the Kerman pistachio orchards in different months of years. *Proceeding of the 14th Iranian Plant Protection Congress*, Isfahan, Iran. P: 128.
23. **Moradi, M.** 1999. Epidemiology of *Aspergillus flavus* and aflatoxin production in pistachio production processing in Iran. *Extension booklet of IPRI (In Farsi)*, Rafsanjan-Iran. 31pp.
24. **Moradi, M.**, and Salehi, F. 1999. Relationship between shell discoloration of pistachio nut, fungi decay and insect's infestation. *The First National Symposium on Aflatoxin*. P: 28, (In Farsi and English), Rafsanjan-Iran.

Research interests

- Ecology, biology and risk of mycotoxins in food and feed and strategy to manage mycotoxigenic fungi
- Mass production of *Trichoderma* for biological control.
- Evaluation of biological agents to control of soil borne pathogens

Students

M.Sc.

Alipoor M. 2010-2013. Frequency of *Trichoderma* species in Pistachio orchards and their activity against of crown and root rot of pistachio trees.

Jafari, F. 2010-2013. Effects of bacterial strains on *Phytophthora* species; the causal agents of crown and root rot of pistachio trees.

Ghafari, F. 2010-2013. Competitive ability of bacterial strains to inhibit toxigenic strains of *Aspergillus flavus* on different substrates.

Hajabdolahi, M. 2011-2014. Biological control of *Phytophthora* crown and root rot of pistachio

Goreschi, F. 2011-2014. Effects of *Bacillus* strains on toxigenic strains of *Aspergillus flavus* on the kernel of pistachios.

Mahmoudi, B. 2011-2015. Biological control of crown and root rot of pistachio using bacterial strains

Rohani, M. 2011-2014. Competitive ability of yeasts strains against of *Aspergillus flavus* in soil and plant debris

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Ahmadi, M. 2013-2015. Comparison gene cluster of aflatoxin production in toxigenic and atoxigenic strains of *Aspergillus flavus*.

Fathi, F. 2012-2015. The role of systemic resistance to control pistachio crown and root rot

Pourhosseini, M. 2014-2016. Cyclopiazonoc production in atoxigenic *Aspergillus flavus* strains.

Mahmoudi, M. 2015-...Competitive ability of yeast strains to reduce the populations density of toxigenic strains of *Aspergillus flavus* and aflatoxin in pistachios

Ph.D. students

Fani, S. R. 2011-2015. Application of atoxigenic strains of *Aspergillus* species to manage the aflatoxin contamination in pistachio nuts.

Fotoohyian, Z. 2011-2015. Impact of *Trichoderma harzianum* to control pistachio wilt caused by *Verticillium dahlia*

Zeoinadini, A. 2012-2017. Molecular and morphological *Melioidogyne* population in pistachio orchards.

Tavasoli, E. 2016-...Etiology of pistachio die-back in pistachio orchards.

Specific Training course

- Training program on mycotoxin analysis in Technical University of Munich, Germany, 03-14 August 2009.
- Sampling methodology for aflatoxin and mold inspection in pistachio, 28 September to 2 October 2009, IPRI-FAO (Setting up a training course at IPRI in contribution with FAO).

Skills

- Principles of DNA and RNA based molecular techniques
- Identification the species of *Fusarium*, *Aspergillus* and *Trichoderma* using morphological and new molecular assay tools
- Principles of electrophoresis, PCR, RFLP, AFLP and Real-Time PCR techniques
- Principles of Plant Pathology laboratory techniques, isolation, identification and taxonomy, inoculum production (recently I have developed a new, rapid and simple spore production method in *Fusarium* species), mass production of *Trichoderma* for biological control, ecology and biology of mycotoxigenic fungi (especially *Fusarium* and *Aspergillus*) and inoculation tests
- Control of phytopathogenic fungi using trunk injection of fungicides
- Mycotoxin analysis
- Computing, Bioinformatics software's and programs

Referees

Dr. Mehrdad Madani, Research associate University of Manitoba--Winnipeg- Canada, 13 Freedman -362 Ellis Building, Soil science-University Manitoba, Tel. 2048807761, +98 9131003862, Meh.Madani@yahoo.com.

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Dr. John Maina Wagacha, The Institute for Climate Change and Adaptation, University of Nairobi, maina.wagacha@uonbi.ac.ke OR maina.wagacha@yahoo.com +254-715693662 or +254-733217407.

Dr. Claudia Probst, Department of WSU Prosser Irrigated Agriculture Research & Extension Center, Washington State University, claudia.probst@wsu.edu, (509) 786-9225 Inter: 6-1225