

CURRICULUM VITAE



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Academic qualifications

B.Sc.

Sep.1988-Feb. 1992

Bachelor of Science in Plant Protection, Tabriz University, Faculty of Agriculture, Tabriz, Iran

M.Sc.

Sep. 1995-Sep. 1997

Master of Science in Plant Pathology, Tarbiat Modarres University, Tehran, Iran
Thesis Entitled: Study on Karnal bunt on wheat and evaluation of resistance of wheat cultivars to the disease

Ph.D.

Dec. 2002-Dec. 2006

Ph.D. degree in Molecular Genetics, Wageningen University and Research Center, Wageningen, The Netherlands

Thesis Entitled: Barley-Heterologous Rusts: A Model to Study the Mechanisms and Genetics of Non-host immunity in Plants

Research Interests

- Molecular Detection of Plant Pathogens
- Genetics of Resistance to Biotic and Abiotic Stresses in Plant
- RNA-Sequencing and Gene Expression Studies
- Molecular Marker Technology and Genetic Map Construction, QTL Mapping, Candidate Gene Analyses

Selected Research Projects

- Development of a diagnostic kit based on a loop-mediated isothermal amplification (LAMP) assay for rapid detection of *Verticillium dahliae* on olive
- A complementary study on olive decline and involvement of biotic and abiotic stresses in development of disease in Taroum region
- Detection of *Verticillium dahliae* pathotypes isolated from olive and evaluation of resistance of olive genotypes to Verticillium wilt disease using Real-time PCR
- Screening for resistance to *Verticillium dahliae*, the causal pathogen of olive Verticillium wilt in Iranian collection of promising olive cultivars and local genotypes
- Evaluation of resistance of some bean cultivar and lines to the fungal root rot pathogen; *Fusarium solani* f.sp. *phaseoli* using morphological and molecular assay
- Management of Armillaria collar rot, predominant cause of olive decline at Taroum region in Zanjan
- Study on expression of candidate genes for resistance to *Fusarium solani* f.sp. *phaseoli* in bean
- Investigation on the efficacy of trifloxystrobin + tebuconazole (Nativo WG 75) on the control of apple scab disease

Selected Publications

Journals papers

- Atienza, S. G., **Jafary, H.**, and Niks, R.E. 2004. Accumulation of genes for susceptibility to rust fungi for which barley is nearly a nonhost results in two barley lines with extreme multiple susceptibility. *Planta* 220:71-79
- Jafary, H.**, Szabo, L., and Niks, R. E. 2006. Innate nonhost immunity in barley to different heterologous rust fungi is controlled by sets of resistance genes with different overlapping specificities. *Molecular Plant-Microbe Interaction* 19:1270-1279

- Jafary, H.** Albertazzi, G., Marcel T.C., and Niks R.E. 2008. High diversity of genes for nonhost resistance of barley to heterologous rust fungi. *Genetics* 178:2327–2339
- Marcel TC, Varshney PK, Barbieri M., **Jafary H.**, De Kock M. J. D., Graner A., and Niks R.E. 2007. A high-density consensus map of barley to compare the distribution of OTLs for partial resistance to *Puccinia hordei* and of defense gene homologues. *Theoretical and Applied Genetics*. 114:487- 500
- Arzanlou, M., Torbati, M. **Jafary, H.** 2012. Fruit rot of olive (*Olea europaea*) caused by *Truncatella angustata*. *Plant Pathology & Quarantine* 2(2), 117–123
- Almasi MA, **Jafary H**, Moradi A, Zand N, Ojaghkandi MA, et al. 2013 Detection of Coat Protein Gene of the Potato Leafroll Virus by Reverse Transcription Loop-Mediated Isothermal Amplification. *Journal of Plant Pathology and Microbiology* 4:156-
- Almasi MA, Erfan Manesh M. **Jafary H**, Dehabadi, S. M. H. 2013 Visual detection of Potato Leafroll virus by loop-mediated isothermal amplification of DNA with the Gene Finder dye. *Journal of Virological Methods*.192: 51– 54
- Arzanlou, M., Torbati, M. **Jafary, H.** 2013.Fruit rot on olive caused by *Pilidium concavum* in Iran. *Australasian Plant Dis. Notes* 81: 117-121
- Zaareh, M. and **Jafary, H.** 2013. Diversity of quantitative trait loci for salt tolerance at early growing stage of barley (*Hordeum vulgare* L.). *Crop Breeding*.3(2): 69-77
- Dastkar, E., Sloimani, A., **Jafary, H.** and Nagahavi, M. R. 2013. Genetic and Molecular variability of Iranian Olive Germplasm. 2013. *Crop breeding*. 3(2):99-106
- Moradi A., Almasi M. A., **Jafary H.** and Mercado-Blanco. 2013. A novel and rapid loop-mediated isothermal amplification assay for the specific detection of *Verticillium dahliae*. *Applied Microbiology*. 116(4):942-54
- Mirza Ali Babaei E, **Jafary H**, Azimi MR. 2017. Functional analyses of QTLs conferring host and non-host resistance of barley to leaf rust fungi using sequence- based SNP markers. *Modern Genetics* 12(3): 421-430
- Mohmmadi,A. Sofalian.O., **Jafary, H.** and Shekari, F. 2018. Analysis of chromosomal regions controlling drought tolerance in barely (*Hordeum vulgare* L.) seedlings. *Applied ecology and environmental research* 16(4): 4251-4263
- Rasouli D, Maleki B, **Jafary H** and, Bahari A. 2018. Expression analysis of genes involed in steviol glycosides biosynthesis pathway in *Stevia rebaudiana* Bertoni under biotic and abiotic elicitors. *Modern Genetics* 13(2): 247-257.
- Zand, N., Hemmati, R. and **Jafary H.** 2018.Development of a quantitative PCR assay for quantification of *Fusarium solani* f. sp. *phaseoli* in resistant and susceptible white bean. *Genetic Engineering and Biosafety Journal*.7(1):53-64
- Mohammadi,A., Sofalian. O., **Jafary,H.**, Asghari,A., and Shekari, F., 2017.Assessing the genetic diversity of two populations of barley under normal and drought stress conditions in seedling stage using multivariate analyses. *Cerael Research* 7(3):399-420
- Maleki,.A., Saba,J. Pouryousef,.M., **Jafary,. H** and Jafary. A.A.2017. Evaluation of genetic variation and comparison of Iranain anise (*Pimpinella anisum* L.) Populations. *Iranian Journal of Field Crop Science*. 47(4):661-670.

-Jamshidi, F., Rabiei, V., **Jafary, H.**, Fottovat, R., and Taheri M., 2014. Genetic diversity among olive clones of Zard and Rowghani cultivars using microsatellite markers. *Iranian Seed and Plant Improvement Journal*. 1-30(2):327-345

-SefidKohi, Z., Solimani, A., **Jafary, H.**, and Dastkar, E. 2014. Descriptive Assessment and Genetic Diversity of some Promising Walnut Genotypes in Zanjan Province. *Iranian Seed and Plant Improvement Journal*. 1-30(4):719-732.

-**Jafary, H.**, Torabi M., and Alizadeh, A. 1999. Study on *Tilletia indica* causal fungus of partial bunt in Iran. *Iranian Seed and Plant Improvement Journal* 15(3):262-279.

-**Jafary, H.**, Torabi M., and Alizadeh, A. 1999. Evaluation of resistance of some wheat cultivars and advanced lines to *Tilletia indica* fungus, the causal pathogen of Karnal bunt. *Iranian Seed and Plant Improvement Journal* 15(3):296-312.

-**Jafary, H.** and Saremi, H., 2004. Study on fungi associated with wheat root and collar rot and their economic damage to the crop. *Agriculture Science*. Tabriz University. 14(1):13-23

-**Jafary, H.**, Ansari M.N., Ebrahimi, M., Taheri, M., and Dastkar, E. 2013. Analyses of quantitative loci involved in production of enzymes conferring salt tolerance in barley (*Hordeum vulgare* L.). *Journal of Crop Biotechnology*. 3(5):117-127

-**Jafary, H.**, Khanmohammadi, S. and Mehri, N. 2013. Detection of Pathotypes of *Verticillium dahliae*, the fungal pathogen of olive wilt in Tarom olive orchards using Nested-PCR techniques. *Applied Research in Plant Protection*. 2 (2):47-58

-Torbat, M. Arzanlou, M. **Jafary, H.**, and Babaei Ahari, A. 2013. Morphological and molecular characterization of fungal species associated with olive fruit rot disease in Zanjan province. *Applied Research in Plant Protection*. 2 (1):52-65

Conference Papers

- **Jafary, H.**, and Nicks, R. E. 2004. Mapping of quantitative genes in barley determining the resistance to the heterologous wheat leaf rust fungus (*Puccinia triticina*). Proceedings of the 11th international Cereal Rusts and Powdery Mildews Conference. Abstract 1.4. Norwich, UK

-**Jafary, H.**, Albertazi, G., and Nicks, R.E. 2006. Diversity of loci carrying genes for resistance of barley to heterologous rust species. Proceedings of the non-specific and specific innate and acquired plant resistance symposium. Abstract 66, Budapest, Hungary.

-**Jafary, H.**, and Nicks, R.E. 2006. Non-host resistance in barley to rust fungi is based on highly specific resistance genes. Proceeding of 16th Plant and Animal Genome Conference. . Page 187, San Diego, USA.

-Aghnoum R., Marcel, T., **Jafary H.** and Nicks, R. E, 2007 Genetic diversity for quantitative resistance of barley against powdery mildew. Proceeding of 17th Plant and Animal Genome Conference. San Diego, USA

-Nicks R.E., **Jafary, H.**, and Marcel T.C. 2008. The Barley-*Puccinia* Rust System: a Model to Study the Genetic Factors that Determine the Host-Status of

Plants to Specialized Pathogens. Proceeding of 10th International barley Genetics symposium. Full paper. Biotic stress session. Alexandria, Egypt.

-Marcel T.C. **Jafary, H.**, Kohutova, Z. Huneau C., Niks R.E., Chalub B. 2008. Two non-gridded BAC libraries for the identification of genes involved in basal resistance of barley to cereal rusts. Biotic stresses session. Abstract Alexandria, Egypt

-Marcel, T.C. Aghnoum, R. **Jafary, H.** Yeo K.S., F. Chalhoub B., Niks. R.E 2009. A map-based cloning platform to unravel genes for basal resistance to biotrophic fungi in barley. Proceeding of 19th International Triticeae Mapping Initiative - 3rd COST Tritigen. Clermont, France

-**Jafary H.**, Marcel TC & Niks RE. 2009. Nonhost immunity in barley to *Puccinia hordei-bulbosi* is a polygenic trait with multiple components. Proceedings of the 12th international Cereal Rusts and Powdery Mildews Conference. Abstract, Antalya, Turkey.

-Niks RE, **Jafary H.**, Aghnoum R & Marcel TC. 2009. The Barley-Rusts and Mildews: Two models to study the molecular basis of host-status of plants to specialized pathogens. Proceedings of the 12th international Cereal Rusts and Powdery Mildews conference. Abstract Antalya, Turkey.

-Niks, R.E. **Jafary H.** and Marcel T.C. 2011. Cracking the codes: genetic basis of nonhost resistance of barley to heterologous rust fungi. Full paper. Proceeding of BGR technical workshop. Minnesota, USA

-**Jafary, H.**, Aghnoum, R., Schweizer. P. and Niks R.E. 2011. Transcriptome analyses of host and non-host resistance of barley to the leaf rust fungi. Full paper. Proceeding of the first congress on Science and new Technologies in Agriculture. Zanzan University. Zanzan. Iran.

-**Jafary, H.** Street K. and Niks R. E. 2012. Weak non-host resistance of barley (*Hordeum vulgare*) to the wheat leaf rust fungus (*Puccinia triticina*) in a panel of geo-referenced landraces. Proceedings of the 13th international Cereal Rusts and Powdery Mildews Conference. Abstract, Beijing, China

-**Jafary, H.** and Torabi, M. 1998. Study on *Tilletia indica*, causal pathogen of partial bunt in Iran. Proceeding of 13th Iranian Plant Protection Conference. Karaj. Iran.

-**Jafary, H.**, and Mansouri B. 2002. Study on fungi associated with root and collar rot of wheat in Zanzan province. Proceeding of 15th Iranian Plant Protection Conference. Kermanshah. Iran

-**Jafary, H.** 2002. Distribution and economic importance of bunt and smut fungi in rainfed wheat fields of Zanzan province. Proceeding of 15th Iranian Plant Protection Conference. Kermanshah. Iran

Books

-**Jafary, H.** 2016. Breeding crops with resistance to diseases and pests (By R. Niks et al.), Iranian Plant Protection Research Institute Tehran, Iran. (Translated to Farsi).

-Following Olive Footprints (*Olea europaea* L.): cultivation and culture, folklore and history, traditions and uses. Compilation (in English). International Olive Council (IOC), ISHS. 2012.

Thesis Supervised

Ph.D. Thesis

-Rasouli,P. 2013 Expression of Etylen-receptor genes in cut flowers of rose (*Rosa hybrida*) in response to external ethylene treatment. Islamic Azad University. Tehran, Iran

-Mohammadi, A.2018. Analysis of chromosomal regions controlling seedling drought resistance in barley (*Hordeum vulgare* L.). University of Mohaghegh Ardabili, Ardabil, Iran

-Zand. N.2019. Screening of bean cultivars and lines with resistance to Fusarium root rot fungus (*Fusarium solani*) and study on expression of genes involved in resistance to the disease in two susceptible and resistant lines. Zanzan University, Zanzan, Iran.

-Rasouli, D. 2019. Effect of Kitosane, Methyl jasmonate and yeast extract elicitors on expression of genes involved in steviol glycosides biosynthesis of in vitro *Stevia rebaudiana*. Zanzan University, Zanzan Iran

M.Sc. Thesis

- van Dijk, T. 2007. Characterization of a QTL for Non-host resistance in barley. Wageningen University, Wageningen, The Netherlands

-Zaare, M.2008. Analyses of QTLs involved in salt tolerance in barley. Zanzan University, Zanzan, Iran.

-Tadayoni Rad, R. 2009. Genetic basis of non-host resistance in barley to *Puccinia persistence*. Zanzan University, Zanzan, Iran.

-Ahangarian,S. 2010. Isolation of R-genes to leaf rust pathogen of barley and development of PCR based molecular markers using NBS profiling. Zanzan University, Zanzan, Iran

-Khanmohammadi.S. 2010. Quantitative measurement of fungal pathogen *Verticillium dahliae* in infected olive genotypes and evaluation of resistance to the pathogen using real – timePCR. Zabol University. Zabol. Iran.

-Jamshidi,F. 2010. Study on morphological and genetic diversity of Zard and Rowghani olive cultivars using SSR markers. Zanzan University, Zanzan, Iran.

-Behboudi Moghaddam, M.2010. Detection of wheat and barley yellow and brown rust fungi using real-time PCR. Zabol University. Zabol. Iran.

-Almasi,M.A. 2011. Detection of potato leaf roll virus using reverse transcription loop-mediated isothermal DNA amplification (RT-LAMP) reaction. Zanzan University, Zanzan, Iran

-Moshiri,F. 2011. The gametophytic screening of drought stress tolerance olive (*Olea europaea* L.) Zanzan University, Zanzan, Iran

-Fardad,F. 2011.Mapping of QTLs for late-season drought tolerance in barley. Zanzan University, Zanzan, Iran.

-Ansari.M.N. 2011. Analyses of loci involved in production of enzymes conferring salt tolerance in barley (*H.vulgar* L.). PayameNor University, Karaj, Iran

- Ghasemi,M. 2011.Detection of CMV on olive using loop-mediated isothermal DNA amplification (LAMP) reaction. Zanzan University, Zanzan, Iran.
- Sefidkohi, Z. 2012. Genetic fingerprinting of some encouraging walnut genotypes of Zanzan province using SSR markers. Zanzan University, Zanzan, Iran.
- Torbati,M. 2012.Identification and pathogenicity of the fungal agents causing olive fruit rot disease in Zanzan Province. Tabriz University, Tabriz. Iran
- Beigi.P. 2013. NBS-LRR (Nucleotide Binding Site) profiling of resistance genes in different olive cultivars. Zanzan University, Zanzan, Iran.
- Adabi.A. 2013. Expression analyses of Cadmium resistance genes in Barley using cDNA-AFLP Zanzan University, Zanzan, Iran
- Yalameha.T.2013. QTL mapping for some agronomic and physiological traits in barley under salinity stress. Zanzan University, Zanzan, Iran.
- Salehi, S.2013. Fine mapping of QTLs conferring resistance to cadmium toxicity in barley. Zanzan University, Zanzan, Iran.
- Aslani, S. 2013. Rapid detection of *Verticillium dahliae*, causal pathogen of olive Verticillium wilt using a loop-mediated isothermal amplification (LAMP) assay. Imam Khomeini International University, Gazvin, Iran
- Abdollahzadeh.N.2014. QTL Mapping for Na+and K+ uptake in barley under salinity stress. Zanzan University, Zanzan, Iran.
- Bakhtiari,.H.2014. Comparative analysis of cadmium resistance genes in burley and rice. Zanzan University, Zanzan, Iran.
- Mirzaali Babaei. E.2014. Functional analyses of QTLs conferring host and non-host resistance of barley to leaf rust fungi using sequence- based SNP markers. Zanzan University, Zanzan, Iran.
- Rahmani,S. 2015. Characteristics of ITS region of Ribosomal DNA in *Armillaria* sp. isolates collected from olive in Tarom. Zanzan University, Zanzan, Iran.
- Shokri,.M.2015. Molecular detection and survey of tomato big bud phytoplasma in Zanzan province. Zanzan University, Zanzan, Iran.
- Taran, M.2015. Detection of suitable pollinizer for some olive (*Olea europaea* L.) cultivars using SSR markers. Zanzan University, Zanzan, Iran.
- Ghame. H.2015. Study on expression of Cadmium resistance gene in barley. Zanzan University, Zanzan, Iran.
- Asgari,N. 2017. Detection of fungi associated with root and crown rot of apricot in Mahnesan region. Islamic Azad University of Tehran. Iran.

Teaching Activities

-Teaching PhD and MSc courses (2007-2019) entitled: Molecular detection of plant pathogens, Plant biotechnology, Breeding crops for residence to the diseases, Plant Genetics, Statistical Genomics etc. in Zanzan University and Tabriz University.

Other achievements

-Ranked number 1 graduate of both BSc on Plant Protection (from Tabriz University) and MSc on Plant Pathology (from Tarbiat Modarres University).

-Ranked number 1 in the countrywide MSc entrance exam for state universities, 1995.

-Awarded 2 years scholarship (1995-1997) for MSc in Tarbiat Modarres University by Ministry of Science Research and Technology

-Awarded 4 years scholarship (2002-2006) for PhD in Wageningen University, The Netherlands by Ministry of Science Research and Technology

-Awarded 3 months visitor scientist (2012) funded by Laboratory of Plant Breeding, Wageningen University, The Netherlands