CURRICULUM VITAE (CV)

Sure Name*:* **Ahmadvand**

First Name: **Rahim**

Current position*:* **Associate Professor at Seed and Plant Improvement Research Institute (SPII), 1999-present**

Address: **Vegetables and Irrigated pulses Research Department, SPII, Mahdasht Ave. 3185, P.O. Box 4119, Karaj, IRAN**

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Educations:

1. PhD in Plant Biotechnology, Georgikon Faculty, Pannonia University, Keszthely, Hungary, 2010-2013
2. MSc. in Plant Pathology, College of Agriculture, Tarbiat Modarres University, Tehran- Iran, 1997-1999.
3. BSc. in Plant Protection, College of Agriculture, Bu Ali- Sina University, Hamedan- Iran, 1992-1996.

Publications*:*

Full papers:

1. Asadollahi, M., Iranbakhsh, A., **Ahmadvand, R.,** Ebadi, M., & Mehregan, I. (2023). Synergetic effect of water deficit and arbuscular mycorrhizal symbiosis on the expression of aquaporins in wheat (Triticum aestivum L.) roots: insights from NGS RNA-sequencing. *Physiology and Molecular Biology of Plants*, 1-14.
2. Hajibarat, Z., Saidi, A., Zeinalabedini, M., Gorji, A. M., Ghaffari, M. R,, Shariati, V., and **Ahmadvand, R.** (2022). Genome-wide identification of StU-box gene family and assessment of their expression in developmental stages of Solanum tuberosum. *J Genet Eng Biotechnol* 20(1):1–21
3. Jariani, P., Ramshini, H., Lotfi, M., Amini, F., Abtahi, H. and **Ahmadvand**, **R.** (2022). Development of cantaloupe (Cucumis melo) lines carrying Vat gene with favorable fruit traits. *Eur.J.Hortic.Sci.* 87(5), 1-9.
4. Neysanian M, Iranbakhsh A, **Ahmadvand R,** Oraghi Ardebili Z, Ebadi M. (2021). Comparative efficacy of selenate and selenium nanoparticles for improving growth, productivity, fruit quality, and postharvest longevity through modifying nutrition, metabolism, and gene expression in tomato; potential benefits and risk assessment. *PLoS One*.18;15(12): e0244207.
5. Bitaraf, N., Saadatmand, S., Mehregan, I., **Ahmadvand, R** and Ebadi, M. (2020). Evaluation of mitigation effects of Glomus mosseae on Triticum aestivum L., cv. Chamran under drought stress. *Journal of Tchê Química*, 17 (34): 1033-1145.
6. Moradi Tarnabi, Z., Iranbakhsh, A., Mehregan, I., and **Ahmadvand, R.** (2020). Impact of arbuscular mycorrhizal fungi (AMF) on gene expression of some cell wall and membrane elements of wheat (Triticum aestivum L.) under water deficit using transcriptome analysis. *Physiol Mol Biol Plants* 26, 143–162.
7. Asghari, R., and **Ahmadvand, R.** (2018) Salinity stress and its impact on morpho-physiological characteristics of aloe vera. *Pertanika J Trop Agri Sci* 41:411–422.
8. Tousi, N., Eini, O., **Ahmadvand, R**., Carra, A.; Miozzi, L.; Noris, E.; Accotto, G.P. In silico prediction of miRNAs targeting ToLCV and their regulation in susceptible and resistant tomato plants. *Aust. Plant Pathol.* 2017, 46, 379–386.

9. Mousapour Gorji, A., **Ahmadvand, R.**, Taller, J. István, W. and Polgár, Z. 2017. Genetic multiplex state study of some advanced potato clones conferring Potato virus Y NTN (PVY^{NTN}) extreme resistance. *Crop Breeding Journal* 7 (1 & 2): 15-22.

10. **Ahmadvand, R.,** Poczai, P., Hajianfar, R., Kolics, B., Gorji, A. M., Polgár, Z., and Taller, J. (2014). Next generation sequencing based development of intron-targeting markers in tetraploid potato and their transferability to other Solanum species. *Gene*, 540(1), 117-121. **(IF:2.082)**

11. **Ahmadvand, R.,** Wolf, I., Gorji, A. M., Polgár, Z., & Taller, J. (2013). Development of Molecular Tools for Distinguishing Between the Highly Similar Rx1 and Rx2 PVX Extreme Resistance Genes in Tetraploid Potato. *Potato Research* (56) 277-291 **(IF: 0.844)**

12. **Ahmadvand, R.,** Takács, A., Taller, J., Wolf, I., & Polgár, Z. (2012). Potato viruses and resistance genes in potato. *Acta Agronomica Hungarica* 60(3), 283-298.

13. Hassan Abady, H., Mousapour Gorji, A., Hassan Panah, D., **Ahmadvand, R.,** Parvizi, Kh., Kazemi, M., Hajianfar, R., and Abdi, H. (2013). KHAVARAN, a new potato variety with high yield and quality *Research Achievements for Field and Horticulture Crops* 2 (1) 67-69. (In Persian).

14. **Ahmadvand, R.,** and Hasan- Abady, H. (2010). Evaluation of Resistance of Potato Promising Clones to PVX, PVY and PVA in Greenhouse. *Seed and Plant Improvement Journal* 25-1:517-531. (In Persian).

15. **Ahmadvand, R.,** and Zarbakhsh, A. (2008). Identification and Determination Physiological Races of Tomato Wilt Agent in Major Cultivation Areas. *Agricultural Research Journal* 18-3:156-173. (In Persian).

16. Fatima Moradian, Khosro Khajeh, Hossein Nader-manesh, **Rahim Ahmadvand,** Reza Hassan Sajedi., and Majid Sadeghizadeh (2006) Thiol-Dependent Serine Alkaline Proteases from *Bacillus sp.* HR-08 and KR-8102 *Applied Biochemistry and Biotechnology* 134:77-87

17. Reza Hessian Sajedi, Hossein Nader-manesh, Khosro Khajeh, **Rahim Ahmadvand**, Bijan Ranjbar, Ahmad Asoodeh., and Fatemeh Moradian (2005) Ca-independent α – amylase that is active and stable at low pH from the *Bacillus sp.* KR-8104 *Enzyme and Microbial Technology* 36: 666-671

18. **Ahmadvand, R.,** and Rahimian, H. (2005). Study on phenotypic and electrophoretic characteristic of pectobacteriums infecting of corn in Mazandaran *Iranian Journal of Phytopathology* 2:41, 271-290. (In Persian)

19. Ahangar, E., Eini, O., **Ahmadvand, R.,** and Bahari, A. (2016). Serological and Molecular Study on Bean common mosaic virus in Zanjan province *Agricultural Biotechnology* (In Persian).

20. **Translated book** to Persian entitled "Plant virus evolution". By Roossinck, M. J. (2008). Springer. Translated by:Nasaj-Hosseini, **Ahmadvand, R.**

Conferences and proceedings:

1. **Ahmadvand, R.** (2014). Application of next generation sequencing technologies in plant genetics. **Keynote speaker** in *the 1st International Conference on New Ideas in Agriculture 26-27 Jan. 2014, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran.*

2. Hajianfar, R., Taller, J., Polgár, Z., Wolf, I., Cernák, I., **Ahmadvand, R.,** and Mousapour Gorji, A. (2014). Expressional analysis of *Phytophthora infestans* induced resistance response genes in potato. *EAPR – 19th triennial conference of the European association for potato research 6-11 July.*

3. **Ahmadvand, R.,** Hajianfar, R., Mousapour Gorji, A., El-Banna, A., Polgár, Z, and Taller, J. (2013). Development of intron-targeting markers as a tool for molecular breeding in response to pathogens. *Proceeding of 8th plant breeding international conference, 6-7 May, Egypt.*

4. **Ahmadvand, R.,** Hajianfar, R., Mousapour Gorji, A., Cernák, I, Polgár, Z, and Taller, J. (2013). Transcriptome analysis of White Lady in response to PVX, PVY and *Phytophthora infestans* using next generation sequencing. *EAPR - EUCARPIA Congress "The challenges of improving both quality and resistance to biotic and abiotic stresses in potato", June 30 - July 04. 2013, Hévíz, Hungary. Pp: 26.*

5. Elbana, A., **Ahmadvand, R.,** Hajianfar, R., Mousapour Gorji, A., Cernák, I, Polgár, Z, and Taller, J. (2013). Isolation and functional analysis of resistance response genes in potato and the development of molecular markers. *EAPR - EUCARPIA Congress "The challenges of improving both quality and resistance to biotic and abiotic stresses in potato", June 30 - July 04. 2013, Hévíz, Hungary. Pp: 27.*

6. Hajianfar, R., **Ahmadvand, R.,** Mousapour Gorji, A., Cernák, I, Polgár, Z, and Taller, J. (2013). Next generation sequencing based analysis of genes for resistance to *Phytophthora infestans* in cultivar White Lady. *EAPR - EUCARPIA Congress "The challenges of improving both quality and resistance to biotic and abiotic stresses in potato", June 30 - July 04. 2013, Hévíz, Hungary. Pp: 26.*

7. **Ahmadvand, R.,** Hajianfar, R., Polgár, Z, and Taller, J. (2013). Transcriptome and functional marker study in potato. *A Pannon Növény-Biotechnológiai Egyesület konferenciája PhD hallgatók számára, 2013. Május 15*.

8. Hajianfar, R., **Ahmadvand**, R., Polgár, Z., Wolf,I, and Taller, J. (2013) Allelic variation of the R1 late blight (*Phytophthora infestans*) resistance gene in White lady variety. *A Pannon Növény-Biotechnológiai Egyesület konferenciája PhD hallgatók számára, 2013. Május 15.*

9. **Ahmadvand, R.**, Taller, J., Wolf, I., and Polgár, Z. (2012). Identification of the resistance gene to PVX in Hungarian potato cultivars. *54th Georgikon Scientific conference (Georgikon napok), October, 11-12.*

10. Mirkazem, S., Hashemi, M., and **Ahmadvand, R.** (2009). Evaluation the reaction of Potato Promising Clones to Potato virus X (PVX) in Greenhouse Condition. 5th Congress of Virology, Karaj, Iran.

11. **Ahmadvand, R.,** Zarbakhsh, A., and Hajianfar, R. (2008). Evaluating resistance of commercial potato cultivars to bacterial wilt in greenhouse condition. *Proceeding of the 18th Iranian Plant Protection Congress, Bu-AliSina University, Hamedan - Iran.*

12. Hajianfar, R., Zarbakhsh, A., and **Ahmadvand, R.** (2008). Evaluating of tolerance of commercial potato cultivars to fungal wilt in different humidity of field. *Proceeding of the 18th Iranian Plant Protection Congress, Bu-AliSina University, Hamedan - Iran.*
13. Hajianfar, R., Zarbakhsh, A., and **Ahmadvand, R.** (2008). Study on irrigation regimes at early growing stage on development of important fungal diseases in potato cultivars. *Proceeding of the 18th Iranian Plant Protection Congress, Bu-AliSina University, Hamedan - Iran.*
14. Hasan- Abady, H., Hasan- Panahh, D., **Ahmadvand, R.,** Parvisi, Khosro, Shojaee, Korosh, Mortazavi-bak, A., Rahmani, A., Hoseinzadeh, A., and Dehdar, B. (2008). Releasing a New Potato cultivar" SAVALAN**".** *First National Seminar of Potato June 10-11. Ardabil, Iran.*
15. **Ahmadvand, R.,** and Zarbakhsh, A. (2006). Identification and Determination Physiological races of Wilt Agent of Tomato in Some Cultivation Areas. *Proceeding of the 17th Iranian Plant Protection Congress, Tehran University - Iran.*
16. Reza Hassan Sajedi, Hossein Nader-manesh., and **Rahim Ahmadvand** (2004). Purification and Characterization of a Novel α – amylase from *Bacillus sp. 12th Symposium of Biology, 31 AUG- 2 Sep, Hamadan- Iran.*
17. Badooei Delfard A, **Ahmadvand, R.** (2003). Isolation, Production and Biochmical Chracterization of Polyphenol Oxidase from a Novel Iranian Melanogenic bacterium. *Twelfth Symposium of Biology, 31 AUG- 2 Sep, Hamadan- Iran.*
18. **Ahmavand, R.,** and Rahimian H. (2002). Study on diversity of the phenotypic erwinias infecting potato in Hamedan province. , *Proceeding of the 15th Iranian Plant Protection Congress, 7-11 Sept., Razi university of Kermanshah- Iran.*
19. **Ahmavand, R.,** and Rahimian, H. (2000). Identification of the *Erwinia* Species causing stalk rot of the Corn in Mazandaran province. *proceeding of the 14th Iranian Plant Protection Congress, Industrial university of Isfahan- Iran.*
20. Ahangar, E., **Ahmadvand, R.,** and Eini G. O. (2015). Serological study of Bean common mosaic virus (BCMV) in Zanjan and Alborz provinces, Iran. 2th conference on new finding in environment and agricultural ecosystems, Tehran, Iran.

Awards*:*

1. Receiving two stars from Agricultural Research, education and Extension Organization of Iran (AREEO) in honor of involving in releasing of first and second Iranian potato cultivars Savalan and Khavaran.
2. Distinguished researcher in Seed and Plant Improvement Research Institute in 2009.
3. Receiving one star from AREEO in honor of involving in releasing of common bean cultivar" ALMAS".

Membership*:*

1. Member of Iranian phytopathological society, 2000- present.
2. Member of international electronic working group of codex standard for ware potato, 2014-present.
3. Member of scientific committee at Seed and plant improvement research institute, 2000-present

Registered reviewer in:

1. Journal of Plant Pathology and Microbiology
2. Iranian Journal of Agricultural Biotechnology
3. Iranian Journal of Biological Control of Pests and Plant Diseases

Collaboration in releasing and registering new crop cultivars in national cultivars list, as a Pathobreeder:

1. Potato:

Seven potato cultivars including: Savalan, Khavaran, Javid, Anousha, Atousa, Rona, Takta

2. Common bean:

Nine cultivars including: Almas, Yaghout, Saleh, Dadfar, Ofogh, Arian, Sepher, Sahel, Geel

3. Tomato:

Three open pollinated and six hybrids (F1) candidate tomato cultivars (under registeration).

Experiences*:*

Teaching:

1. Lecturer of the course" Genetics of resistance in plants" for PhD students of plant pathology, Bou-Ali Sina Hamedan, Iran
2. First workshop on technology for virus detection and control in seed potato production. Held at Seed and Plant Improvement Institute, Karaj- Iran, 2000.
3. Lecturer of the course" Plant Disease" for undergraduate students, Azad Islamic University, Borujerd branch.
4. Lecturer of the courses "Plant Disease" , "English for Agricultural Students", " Plant Pathogen Vectors", "Integrated Plant Pathogen Management" for Undergraduate students, University of Applied Science and Technology, 2013-2018.

Techniques:

1. Expert in Molecular Based Techniques Including: Standard PCR, Real time PCR, Supersession subtractive hybridization (SSH), Next generation sequencing techniques, Genome wide transcriptome analysis, Construction of cDNA library
5. Genetic engineering techniques: Gene silencing and over-expression in plant
6. Expert in some Immunology Based Techniques Including: ELISA (DAS-ELISA, indirect- ELISA, NCM- ELISA), NASH
7. Expert in tissue culture techniques

Executive Duties:

1. Deputy Director General of Seed and Plant Improvement Institute, 2019-present.
2. Deputy of Vegetables and Irrigated Pulses Research Department in SPII, 2016-2019.
3. Head of laboratories of Vegetables and Irrigated Pulses Research Department in SPII, 2002-2019.
4. Secretary of strategic program of potato in Iran, 2007-2010.

Research projects:

1. Screening of tomato parental lines for resistance genes to *Fusarium oxysporum f.sp. lycopersici* using molecular markers, Published in AREEO, Ministry of Agriculture, Iran, 2023.
2. Indexing of seed lots of two lettuce varieties, Mehregan 48 and Everest, for Lettuce mosaic virus using DAS-ELISA, Published in AREEO, Ministry of Agriculture, Iran, 2021.
3. Production and propagation of virus-free promising potato clones, Published in AREEO, Ministry of Agriculture, Iran, 2021.
4. Study on the reaction of potato promising clones to PVY^{NTN} and PVX in greenhouse condition, Published in AREEO, Ministry of Agriculture, Iran, 2020.
5. Evaluation of the response of potato promising clones to PVY, PVA and PVX in the greenhouse, Published in AREEO, Ministry of Agriculture, Iran, 2018.
6. Evaluation of the response of potato promising clones to PVY, PVA and PVS in the greenhouse, Published in AREEO, Ministry of Agriculture, Iran, 2017.
7. Evaluation of the reaction of common bean genotypes to *Bean common mosaic virus* (BCMV) in greenhouse. Published in AREEO, Ministry of Agriculture, Iran, 2016.
8. Screening of immunity genes to *Potato virus Y* in some cultivars and advanced potato clones. Published in AREEO, Ministry of Agriculture, Iran, 2016.
9. Identification of resistant potato genotypes to Potato virus X (PVX) in Iran.

Published in AREEO, Ministry of Agriculture, Iran, 2016.

10. Screening of tomato genotypes to determine the resistance sources to fusarium wilt disease. Published in AREEO, Ministry of Agriculture, Iran, 2010.
11. Evaluation of Resistance of Potato Promising Clones to PVX, PVY, PLRV, PVS and PVA Viruses in Greenhouse. Published in AREEO, Ministry of Agriculture, Iran, 2010.
12. Isolation and Identification of *Pectobacteriums* Causing Agent of Potato Softrot. Published in AREEO, Ministry of Agriculture, Iran, 2008.
13. Evaluation of Resistance of Commercial cultivars of potato to bacterial wilt in greenhouse condition. Published in AREEO, Ministry of Agriculture, Iran, 2008.
14. Evaluation of Resistance of Potato Promising Clones to Major Viral Diseases in Iran. Published in AREEO, Ministry of Agriculture, Iran, 2007.
15. Collecting, Determination of High Virulent Isolates of Fusarium wilt Disease and their Physiological Races. Published in AREEO, Ministry of Agriculture, Iran, 2006.
16. Study and Selection of Faba Bean Advanced Lines and Durable to Ascochyta Blight. Published in AREEO, Ministry of Agriculture, Iran, 2005.
17. Study and Selection of Faba Bean Advanced Lines and Durable to Choclate Spot. 2005. Published in AREEO, Ministry of Agriculture, Iran, 2005.

Ongoing Research projects:

1. Screening of tomato parental lines for resistance genes to *Tomato mosaic virus* (ToMV) and *Tomato spotted wilt virus* (TSWV) using molecular markers, Approved number in AREEO: 34-03-0351-002-980023.

2. Screening of tomato parental lines for *Tomato yellow leaf curl virus* (TYLCV) using molecular markers, Approved number in AREEO:34-03-0351-003-980024.

3. Evaluation of the reaction of tomato inbred lines to *Tomato yellow leaf curl virus* (TYLCV) in greenhouse conditions, Approved number in AREEO: 2-03-03-011-010135.
4. Study on the reaction of potato promising clones to PVY^{NTN} and PVX in greenhouse condition. Approved number in AREEO: 2-03-03-011-960182