*Maryam Haghighi* *Curriculum Vitae*

**Present position:** Associate Professor, Isfahan University of Technology, Isfahan, Iran

**Work experience:** member of the scientific faculty of Shiraz University. 2009-2011.

Member of the faculty of Isfahan University of Technology: 2011-2024.

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**Education**

**B.Sc.:** 1998 – 2002, Department of Horticulture, Faculty of Agriculture, Isfahan University of Technology, Iran

**M.Sc.:** 2002 - 2004, Department of Horticulture, Faculty of Agriculture, Ferdowsi University of Mashhad.), Iran

M.Sc. Thesis: Use of SMC (Spent Mushroom Compost) For Turf culture via Hydromulching Method

**Advanced diploma on Plant Nutrition:** 9/2005 – 7/2006, Zhejiang University, Hangzhou, China

**PhD:** 10/2003 – 12/2008, on Horticulture- Physiology and Breeding of Vegetable Crops. Department of Horticulture, Faculty of Agriculture, University of Tehran. (Average = 18.4 out of 20).

**PhD Thesis**:The effect of Cd stress on physiological, antioxidant, and enzymatic changes of lettuce (*Lactuca sativa L*) at the presence of humic acid.

**Publication list**

**Articles Submitted**

1. **Haghighia, M.,** Barzegara, A., Mozafarianb, M., Impact of cultivar and seasonal growing conditions on growth and health-promoting compounds in various leafy cabbages. J. Agric. Food Res.
2. Halaji, B., **Haghighi, M.,** Kovács, G.P., Mirmazloum, I., Szegő, A., The role of brassinosteroids and nano-encapsulated brassino-steroids in capsicum pepper growth and physiological adaptations to high-temperature stress. Horticulturae.
3. Masoumi, Z., Khosravi, S., **Haghighi, M.,** Mozafarian, M., Exploring the protective effects of proline on pepper (*Capsicum annum* L.) under high-temperature stress. Plant Stress.
4. Baroutkoob, A., Hajabbasi, M.A., **Haghighi, M.,** The simultaneous effects of soil texture and nano-hydroxyapatite and calcium phosphate fertilizers on the characteristics and yield of tomato fruits. Journal of Plant Production Research.
5. Sedaghat, S., **Haghighi, M.,** Exploring the influence of different *Froriepia Subpinnata* drying methods on its essential oil components. Journal of Agricultural Science and Technology.
6. **Haghighi, M.,** Parniani, F., Abbey, L., Mozafarian, M., Assessment physio-chemical, antioxidant characteristics of pepper (*Capsicum annuum* L.) using principal component analysis by Guar, Xanthan gum, and carboxymethyl cellulose, edible coatings. J. Agric. Food Res.
7. Dehghani, N., **Haghighi, M.,** Rahimmalek, M., Sabzalian, M.R., Szumny, A., Changes in morphological, physiological and phytochemical traits of different dill (*Anethum graveolens* L.) genotypes as affected by light-emitting diode. Molecules.
8. Masoumi, Z., **Haghighi, M.,** Mozafarian, M.,Effects of foliar spraying with melatonin and chitosan nano-encapsulated melatonin on tomato (*Lycopersicon esculentum* L. cv. Falcato) plants under salinity stress. BMC Plant Biol.
9. Baroutkoob, A., **Haghighi, M.,** Hajabbasi, M.A., Amending clayey and sandy soils with nano - bio phosphorous for regulating tomato growth, biochemical, and physiological characteristics. Sci. Rep.
10. Jalali, M., **Haghighi, M.**, The effect of micro organisms and chemical and organic sources of phosphorus on yield and growth of tomato. Iranian Journal of Horticultural Science and Technology.
11. Jalali, M., **Haghighi, M.,** Mozafarian, M., Enhancing tomato growth, quality, and yield through the application of bio and nano-bio phosphorus in conjunction with *Pseudomonas putida* inoculation.J. Agric. Food Res.
12. Masoumi, Z., **Haghighi, M.,** Kapple, N.,Effect of short-term and long-term heat stress based on global warming on growth and physiological characteristics and PIP expression of pepper. Physiol Mol Biol Plants.
13. Sajedimehr, M., **Haghighi, M.,** Sheibanirad,A., Chakraborty, N.,The interaction impact of salinity stress and riboflavin on tomato seedlings. Plant stress.
14. **Haghighi, M.,** Sharifani, M.J., Physiological changes of sweet pepper in low irrigation regime applied in 3 different phenological stages. Advances in Agriculture.

**Accepted for Publication**

1. Khosravi, S., **Haghighi, M.**, Effect of different brassinosteroid sources on Brussels cabbage plants under heat stress. Journal of Vegetable Science.
2. Nasr Esfahani R., **Haghighi M.,** Esmaielpour B. The effect of different combinations of LED lights on the nutritional value and quality of microgreens. Journal of Vegetables Sciences.(In Persian with Eng. abstract).
3. Hekmat, H., **Haghighi, M.,** Eshghizade, HR., Banitalebi, G., Salinity tolerance screening in Iranian and Afghan melons (*Cucumis melon*) based on several associated morphological and physiological traits. Agricultural Science and Technology journal.
4. Masoumi, Z., **Haghighi, M., Jalali, S.A.H.,** Comparison of physiological changes, aquatic relationships and acuoporin gene expressions under salinity, drought, flooding and heat stresses in sweet pepper (*Capsicum annuum* L. var. Ps301). Journal of Plant Research (Iranian Journal of Biology).

**Publication Articles**

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1. Masoumi, Z., **Haghighi, M.,** 2024. Variations in sweet pepper growth, physiology, and gene expression in shock and gradual salt stress. Commun. Soil Sci. Plant Anal. 1-16. https://doi.org/10.1080/00103624.2024.2383263.
2. Moosavia, S.F., **Haghighia, M.,** Mirmazloum, I.,2024. Interacting effects of phytohormones (Auxin and Gibberellin) and fruit pruning on the morpho-physiological and biochemical attributes of bell pepper. Sci. Rep. 14, 14801. https://doi.org/10.1038/s41598-024-65855-y.
3. Amini, M., **Haghighi, M.,** Mozafarian, M., 2024. The effect of bio and nano silicon sources on sweet pepper growth in greenhouses under LED light conditions. Sci. Hortic.337, 113476. https://doi.org/10.1016/j.scienta.2024.113476.
4. Abolghasemi, R., **Haghighi, M.,** Etemadi, N., Soorni, A., 2024. Morpho-biochemical and nutritional value of some early- and late-bolting spinach (*Spinacia oleracea*) accessions. Acta Physiol Plant. 46, 63. https://doi.org/10.1007/s11738-024-03687-z.
5. Halaji, B., **Haghighi, M.,** [Abolghasemi](https://www.researchgate.net/profile/Reza-Abolghasemi?_sg%5B0%5D=nkEX2sFG22LBx5Py_SCcgWm4Jylvvt2FfbwtgxBkUkQ_kMEs4WIRQcTJ807NMtTbBCHmf_0.imVkVJEdA8fLXxhXZjHes6rrg_RrmKob6IpS6ORuvfhN07PSmU8kq-SGx527Avd-1TfONQpNLMAW9HrL1N-bRA&_sg%5B1%5D=kU1fAWk8nyxPU6cp8mreeTsMZhq_jJYTYsUTXZR40sLvkw6YjcVRMfqzC7nfWTsUgQKQ57I.khnbZjabUxKs30vVJNjMyoOArSDstFLIp1GPN91BzpFKXqjk0ErXdGHpCUItPjWZzCv95KLDgp0htk554dVLDQ), R., Mozafarian, M., 2024. Effect of foliar applications of aminolevulinic acid (bulk and nano-encapsulated) on bell pepper under heat stress. [Plant Stress](https://www.sciencedirect.com/journal/plant-stress). 12, 100477. https://doi.org/10.1016/j.stress.2024.100477.
6. Haqmal, M., **Haghighi, M.,** Rahimmalek, M., Hodaei, M., 2024. Investigate the genetic relationships and morphological diversity of some afghan and Iranian melon cultivars for breeding purposes. Plant Mol. Biol. Rep. 1-13. https://doi.org/10.1007/s11105-024-01433-w.
7. Behnamnia, S., Rahimmalek, M., **Haghighi, M.,** Nikbakht, A., Gharibi, S., Pachura, N., Szumny, A., Łyczko, J., 2024. Variation in flavonoid compounds, volatiles and yield related traits in different Iranian *Rosa damascene* Mill. cultivars based on spme arrow and LC-MS/MS. Foods. 13, 668. https://doi.org/10.3390/foods13050668.
8. Halaji, B., **Haghighi, M.,** Amiri, A., Kappel, N., 2023. Effects of potassium and nanocapsule of potassium on pepper growth and physiological changes in high-temperature stress. J. Soil Sci. Plant Nutr. 23, 6317–6330. https://doi.org/10.1007/s42729-023-01486-y.
9. Nouri, K., Nikbakht, A., **Haghighi, M.,** Etemadi, N., Rahimmalek, M., Szumny, A., 2023. Screening some pine species from north America and dried zones of western Asia for drought stress tolerance in terms of nutrients status, biochemical and physiological characteristics. Front. Plant Sci. 14, 1281688. https://doi.org/10.3389/fpls.2023.1281688.
10. Jafari, S., Nikbakht, A., **Haghighi, M.,** Shahin Varnousfaderani, S., 2023. Optimizing of the quality of rose grown with varying ratios and periods of Red: Blue light-emitting diodes in commercial greenhouse. J. Hortic. Postharvest Res. 6, 331-348. https://doi.org/10.22077/jhpr.2023.6524.1322.
11. **Haghighi, M.,** Khosravi, S., Sehar, S., Shamsi, I.H., 2023. Foliar-sprayed calcium-tryptophan mediated improvement in physio-biochemical attributes and nutritional profile of salt stressed *Brassica oleracea* var. italica. Sci. Hortic. 307, 111529.‏ https://doi.org/10.1016/j.scienta.2022.111529.
12. **Haghighi, M.,** Sharifani, M.J., Parnianifard, F., 2023. Physiological changes of sweet pepper under low irrigation regimes applied in three phenological stages of vegetative growth, reproductive growth, and fruit set. N. Z. J. Crop Hortic. Sci. 1-23.‏ https://doi.org/10.1080/01140671.2023.2171440.
13. Sheibanirad, A., **Haghighi, M.,** Pessarakli, M., 2023. The effect of root zone temperature at low nitrogen level of nutrient solution on sweet pepper. J. Plant Nutr. 46, 1-18.‏ http://dx.doi.org/10.1080/01904167.2023.2220725.
14. Khosravi, S., **Haghighi, M.,** Mottaghipisheh, J., 2023. Effects of melatonin foliar application on hot pepper growth and stress tolerance. Plant Stress. 9, 100192.‏ <https://doi.org/10.1016/j.stress.2023.100192>.
15. Gholamnejad, S., **Haghighi, M**., Etemadi, N., Pessarakli, M., 2022. Effects of boron on nutrient partitioning, Ca movement, and fruit quality of tomatoes. J. Plant Nutr. 46, 697-713. https://doi.org/[10.1080/01904167.2022.2071731](http://dx.doi.org/10.1080/01904167.2022.2071731).
16. Rezaeian, Z., **Haghighi, M.,** Kappel, N., 2022. The effect of spermidine and methionine application thorough two biosynthetic paths on flowering of early and late flowering genotypes of eggplant (*Solanum melongena* L.). Sci. Hortic.306, 111459. https://doi.org/10.1016/j.scienta.2022.111459.
17. Sheibanirad, A., **Haghighi, M.,** Jalali, S.A.H., Abbey, L., 2022. Effect of different zinc fertilizer on green bean nutraceutical values. J. Crop Sci. Biotechnol. 26, 301-315. https://doi.org/10.1007/s12892-022-00181-1.
18. Sheibanirad, A., **Haghighi, M.,** Abbey, L., 2022. Morphological and biochemical characteristics of different varieties of snap beans. J. Agric. Sci. Technol. 24, 1157-1172. http://jast.modares.ac.ir/article-23-48024-en.html.
19. Farajimanesh, A., **Haghighi, M.,** Parnianifard, F., 2022. The effects of Arbuscular mycorrhiza on the growth and physiological characteristics of grafted cucumber under salinity stress. Iran Agric Res. 41, 61-73.‏ https://doi.org/10.22099/IAR.2022.40599.1435.
20. Gholamnejad, S., **Haghighi, M.,** Etemadi, N., Pessarakli, M., 2022. The effects of N-NO3: N-NH4 ratios and calcium concentration of the nutrient solution on the growth parameters and partitioning of nitrogen and calcium in tomato plants (*Solanum lycopersicum* L.). J. Plant Nutr. 46, 1-14. https://doi.org/10.1080/01904167.2022.2160753.
21. Davoudi, M., Esmaielpour, B., Soltani Toolarood, A.A., Fatemi, H., **Haghighi, M.,** Gohari, Gh., Farooq, M., 2022. Morphophysiological responses of sweet basil (*Ocimum basilicum* L.) to the nickel stress and inoculation with Pseudomonas strains. Acta Physiol. Plant. 45, 16. https://doi.org/[10.1007/s11738-022-03479-3](http://dx.doi.org/10.1007/s11738-022-03479-3).
22. [Abolghasemi](https://www.researchgate.net/profile/Reza-Abolghasemi?_sg%5B0%5D=nkEX2sFG22LBx5Py_SCcgWm4Jylvvt2FfbwtgxBkUkQ_kMEs4WIRQcTJ807NMtTbBCHmf_0.imVkVJEdA8fLXxhXZjHes6rrg_RrmKob6IpS6ORuvfhN07PSmU8kq-SGx527Avd-1TfONQpNLMAW9HrL1N-bRA&_sg%5B1%5D=kU1fAWk8nyxPU6cp8mreeTsMZhq_jJYTYsUTXZR40sLvkw6YjcVRMfqzC7nfWTsUgQKQ57I.khnbZjabUxKs30vVJNjMyoOArSDstFLIp1GPN91BzpFKXqjk0ErXdGHpCUItPjWZzCv95KLDgp0htk554dVLDQ), R., [**Haghighi**](https://www.researchgate.net/profile/Maryam-Haghighi-3?_sg%5B0%5D=nkEX2sFG22LBx5Py_SCcgWm4Jylvvt2FfbwtgxBkUkQ_kMEs4WIRQcTJ807NMtTbBCHmf_0.imVkVJEdA8fLXxhXZjHes6rrg_RrmKob6IpS6ORuvfhN07PSmU8kq-SGx527Avd-1TfONQpNLMAW9HrL1N-bRA&_sg%5B1%5D=kU1fAWk8nyxPU6cp8mreeTsMZhq_jJYTYsUTXZR40sLvkw6YjcVRMfqzC7nfWTsUgQKQ57I.khnbZjabUxKs30vVJNjMyoOArSDstFLIp1GPN91BzpFKXqjk0ErXdGHpCUItPjWZzCv95KLDgp0htk554dVLDQ)**, M.,** [Etemadi](https://www.researchgate.net/profile/N-Etemadi?_sg%5B0%5D=nkEX2sFG22LBx5Py_SCcgWm4Jylvvt2FfbwtgxBkUkQ_kMEs4WIRQcTJ807NMtTbBCHmf_0.imVkVJEdA8fLXxhXZjHes6rrg_RrmKob6IpS6ORuvfhN07PSmU8kq-SGx527Avd-1TfONQpNLMAW9HrL1N-bRA&_sg%5B1%5D=kU1fAWk8nyxPU6cp8mreeTsMZhq_jJYTYsUTXZR40sLvkw6YjcVRMfqzC7nfWTsUgQKQ57I.khnbZjabUxKs30vVJNjMyoOArSDstFLIp1GPN91BzpFKXqjk0ErXdGHpCUItPjWZzCv95KLDgp0htk554dVLDQ), N., 2022. Morphological, biochemical, and nutritional value of prickly and smooth fruit spinach. Acta Agric. Slov.118, 1. https://doi.org/[10.14720/aas.2022.118.2.1557](http://dx.doi.org/10.14720/aas.2022.118.2.1557).
23. [**Haghighi**](https://www.researchgate.net/profile/Maryam-Haghighi-3), **M.,** [Golabdar](https://www.researchgate.net/scientific-contributions/Shokoh-Golabdar-2217182640), S., [Abolghasemi](https://www.researchgate.net/profile/Reza-Abolghasemi), R., [Kappel](https://www.researchgate.net/profile/Noemi-Kappel-2), N., 2022. [CO2 enrichment changed N metabolism of tomatoes under salinity stress](https://www.researchgate.net/publication/362461623_CO2_enrichment_changed_N_metabolism_of_tomatoes_under_salinity_stress?_sg%5B0%5D=ERfHgc9YI0_4wHZMu-XjzqIfAztoGOwntwzWEuZtRc6ug7P3W7F99jn3hAw3jxslXHCKyOb4yDMHWnWrSAp-rL-8DrLWNPDkS93RF_-T._sBMuV9ONQHC1yim2YwiiVJZma99k4Ymw9YTrWrCDsdXX65aLy8RH9py6X0baOBtPOz_f6oMYZ80IKUXcddhmw). Sci. Hortic. 305, 111412. https://doi.org/[10.1016/j.scienta.2022.111412](http://dx.doi.org/10.1016/j.scienta.2022.111412).
24. Nikbakht, A., **Haghighi, M**., Pessarakli, M., 2022. Distribution of macro- and micro-nutrients in leaves, roots, and scapes of gerbera affected by calcium and humic acid. J. Plant Nutr. 45, 1-13. https://doi.org/[10.1080/01904167.2022.2068431](http://dx.doi.org/10.1080/01904167.2022.2068431).
25. [**Haghighi**](https://www.researchgate.net/profile/Maryam-Haghighi-3?_sg%5B0%5D=0t5KDVmtNIII73y96GvB3xsyRaPMsPRNM7cknNJSrtY-u0N_dzpo1NfPL8K6BvddlOe0KyU.rqtJy3fx3XIT-QiXQNCshziMKs4kcHdySKxH8Ld8PdXK5Vh01XVa5rZKlXp0pXrId63RvZMSWLwHgJG0WYnJfQ&_sg%5B1%5D=pFNfBSKhVi4JtTfTcaGsH8SCPGoxqSvmRaaUqm3iwoWeSs03xEODXS6XlokxzX83LovRY1w.E70c4ihtTMn8jgjJL-7fLk1P12u-ASoKBlnv2Vilz88TljVZ6e8hDwdCRI64ZJA6asG71kxS51SNeQl1VPKKMw), **M.,** [Barzegar, Sadeghabad](https://www.researchgate.net/scientific-contributions/Amir-Barzegar-Sadeghabad-2233842097?_sg%5B0%5D=0t5KDVmtNIII73y96GvB3xsyRaPMsPRNM7cknNJSrtY-u0N_dzpo1NfPL8K6BvddlOe0KyU.rqtJy3fx3XIT-QiXQNCshziMKs4kcHdySKxH8Ld8PdXK5Vh01XVa5rZKlXp0pXrId63RvZMSWLwHgJG0WYnJfQ&_sg%5B1%5D=pFNfBSKhVi4JtTfTcaGsH8SCPGoxqSvmRaaUqm3iwoWeSs03xEODXS6XlokxzX83LovRY1w.E70c4ihtTMn8jgjJL-7fLk1P12u-ASoKBlnv2Vilz88TljVZ6e8hDwdCRI64ZJA6asG71kxS51SNeQl1VPKKMw), A., [Abolghasemi](https://www.researchgate.net/profile/Reza-Abolghasemi?_sg%5B0%5D=0t5KDVmtNIII73y96GvB3xsyRaPMsPRNM7cknNJSrtY-u0N_dzpo1NfPL8K6BvddlOe0KyU.rqtJy3fx3XIT-QiXQNCshziMKs4kcHdySKxH8Ld8PdXK5Vh01XVa5rZKlXp0pXrId63RvZMSWLwHgJG0WYnJfQ&_sg%5B1%5D=pFNfBSKhVi4JtTfTcaGsH8SCPGoxqSvmRaaUqm3iwoWeSs03xEODXS6XlokxzX83LovRY1w.E70c4ihtTMn8jgjJL-7fLk1P12u-ASoKBlnv2Vilz88TljVZ6e8hDwdCRI64ZJA6asG71kxS51SNeQl1VPKKMw), R., 2022. Effect of exogenous amino acids application on the biochemical, antioxidant, and nutritional value of some leafy cabbage cultivars. Sci. Rep. 12, 17720. https://doi.org/[10.1038/s41598-022-21273-6](http://dx.doi.org/10.1038/s41598-022-21273-6).
26. **Haghighi, M.,** Khosravi, S., 2022. The Effects of grafting on cucumber growth at flooding stress during 15 days in vegetative stage. J. Agric. Sci. Technol. 24, 871-881. http://jast.modares.ac.ir/article-23-42206-en.html.
27. Abolghasemi, R., **Haghighi, M.,** Solgi, M., 2022. Biosynthesis of zinc sulphide nanoparticles using the residual of *Ducrosia anethifolia*. Int. J. Environ. Waste Manag. 29, 196-207. https://doi.org/10.1504/IJEWM.2022.121216.
28. Parnianifard, F., **Haghighi, M.,** Mireei, S.A., 2022. The effect of adjusting fruit loading by pruning on the yield and quality of sweet pepper in low light condition. J.S. Afr. bot. 147, 903-914. https://doi.org/10.1016/j.sajb.2022.03.001.
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30. Sheikhalipour, M., Esmaielpour, B., Gohari, G., **Haghighi, M.,** Jafari, H., Farhadi, H., Kulak, M., Kalisz, A., 2021. Salt stress mitigation via the foliar application of chitosan-functionalized selenium and anatase titanium dioxide nanoparticles in stevia (*Stevia rebaudiana* Bertoni). Molecules. 26, 4090. <https://doi.org/10.3390/molecules26134090>.
31. Chenani Saleh, N., Goli, S.A.H., **Haghighi, M.,** Keramat, J.**,** 2021. The effect of blanching, freezing on quality properties of frozen cabbage (*Brassica oleracea* var. capitata). Journal of Plant Process and Function.10, 35-42. https://dorl.net/dor/20.1001.1.23222727.1400.10.43.1.5.
32. Shafie, H., **Haghighi, M.,** 2021. Responses of growth, physiological and anatomical characteristics of resistant and sensitive cultivars of *Cucumis inodorous* to salt stress. J. Agric. Sci. Technol. 23, 661-671. https://dorl.net/dor/20.1001.1.16807073.2021.23.3.3.0.
33. **Haghighi, M.,** Nikbakht, A., 2021. Growth, physiological and metabolic responses of gerbera (*Gerbera jamesonii*) to various combinations of calcium and humic acid levels. 2021. J. Agric. Sci. Technol.23, 1119-1129. http://jast.modares.ac.ir/article-23-38024-en.html.
34. **Haghighi, M.,** Zamani, O., Sheibanirad, A., 2021. Growth response nitrogen metabolism of grafted cucumber fertilized with different ratios of nitrate: ammonium fertilizer. Adv. Hortic. Sci.35, 165­174. https://doi.org/10.36253/ahsc-8343.
35. Kohan, A., **Haghighi, M.,** Mirghaffari, N., Ehtemam, M.H., 2021.Effect of air pollution resulting from exhaust emission on the morphological, physiologic and biochemical responses of lettuce (*Lactuca sativa* var. longifolia). Plant Process and Function. 9, 43-53.
36. Masoumi, Z., **Haghighi, M.,** Jalali, S.A.H., 2021. Flooding or drought which one is more offensive on pepper physiology and growth? Mol. Biol. Rep. 48, 4233-4245. https://doi.org/10.1007/s11033-021-06437-3.
37. Mohammadnia, S., **Haghighi, M.,** 2021. ‘*Momordica charantia’* introducing a new rootstock for grafted cucumber under low­ temperature stress. Adv. Hortic. Sci.35, 99-110. http://dx.doi.org/10.36253/ahsc10414.
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40. **Haghighi, M.,** Abdolahipour, B., 2020. Rootzone temperature on nitrogen absorption and some physiologcal traits in cucumber. Plant Process and Function. 8, 51-60.http://jispp.iut.ac.ir/article-1-1202-en.html.
41. **Haghighi, M.,** Saadat, S., Abbey, L., 2020. Effect of exogenous amino acids application on growth and nutritional value of cabbage under drought stress. Sci. Hortic. 272, 109561. <https://doi.org/10.1016/j.2020.109561>.
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43. Gholamnejad, S., **Haghighi, M.,** Etemadi, N., Shariatmadari, H., 2020. Fortification of tomato with Ca and its effects on fruit quality, calcium status, and nutraceutical values of tomato in different NO3:NH4 ratios. N. Z. J. Crop Hortic. Sci. 48, 228-243. https://doi.org/10.1080/01140671.2020.1775098.
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**In Persian with Eng. Abstract**

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42. Farajimanesh, A., **Haghighi, M.,** Mobli, M., 2018. The effect of different endemic rootstocks on water relation, physiological changes of grafted cucumber under salinity stress. Journal of Horticultural Science and Technology.17, 351-368. http://dorl.net/dor/20.1001.1.16807154.1395.17.3.5.5.
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50. **Haghighi, M.,** Mozafariyan, M., 2015. Application of amino acid on growth and development and yield of greenhouse tomatoes and bell peppers. Journal of Vegetable Science.1, 59-64.https://dorl.net/dor/20.1001.1.26764814.1394.1.2.3.9.
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53. **Haghighi, M**., Nikbakht, A., 2014. Changes of divalent cation absorption in root, stem and leaf of gerbera as affected by different levels of calcium and humic acid. Iranian Journal of Soil Research.28, 387-396. https://doi.org/10.22092/ijsr.2014.120907.
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57. **Haghighi, M.,** Mozafariyan, M., 2014. The effect of PRD on changes of drought stress indices, nutritionantioxidant and photosynthesis activity of tomato. J. Hortic. Sci. 28, 565-575. https://doi.org/10.22067/jhorts4.v0i0.25223.
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59. Bahman zeyari, H., Khoshgoftarmanesh, A., Sanae ostovar, A., **Haghighi, M**., 2013. Effect of different levels of nickel in nutrient solution containing NH4NO3 on lipid peroxidation and activity of some antioxidant enzymes in cucumber leaves. Journal of Soil and Plant Interactions. 3, 91-103. http://dorl.net/dor/20.1001.1.20089082.1391.3.4.6.0.
60. **Haghighi, M**., Kafi, M., Sadat Taghavi, T., Savabeghi, G.H., 2011. The effects of humic acid on cadmium accumulation and changes in antioxidant activity in lettuce. Iranian Journal of Agricultural Science. 42, 105-112. https://dorl.net/dor/20.1001.1.2008482.1390.42.2.1.4.
61. **Haghighi, M**., Kafi, M., Sadat Taghavi, T., Savabeghi, G.H., 2010. [Effect of humic acid on N, P and stress indicators of lettuce polluted by cadmium](https://water-soil.tabrizu.ac.ir/article_1296_e030c8a5df7e89f7890813f695a137da.pdf?lang=en). Water and Soil Science.20, 87-98.
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63. **Haghighi, M**., Behbodian, M.H., 2011. Water relations of the tomato plant under partial rootzone drying (PRD). Journal of Crop Improvement. 13, 1-8.https://dorl.net/dor/20.1001.1.83372008.1390.13.1.6.0.
64. **Haghighi, M**., Behbodian, M.H., 2010. Changes in postharvest quality of tomato under water deficiency. Iranian Journal of Science and Technology. 11, 175-186.
65. **Haghighi, M.,** 2010. The effect of partial rootzoone drying on water relation and qualitative and quantitative characteristics of tomato. Journal of Science and Technology of Greenhouse Culture. 1.
66. Kafi, M., **Haghighi, M.**, Tehranifar, A., Davarinejad, G.H., Nemati, H., 2010. Introducing the best mulching media and time of culture for hydromulching system and its effect on the quality and quantity aspect of lawn. Journal of Science and Technology of Agriculture and Natural recourses. 13, 659-666. http://jcpp.iut.ac.ir/article-1-1084-fa.html.
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**Selected International Presentations**

1. Nouri, K., Nikbakht, A., **Haghighi, M.,** Etemadi, N., 2021. The effect of drought stress on growth and physiological characteristics of some pine species at the juvenility period. International Hybrid Mode Conference on Emerging Innovative Research Trends in Biology. Kohat.
2. **Haghighi, M.,** Sheibanirad, A., 2021. Evaluation the effect of zinc application on heavy metal accumulation in snap beans. International Hybrid Mode Conference on Emerging Innovative Research Trends in Biology. Kohat.
3. **Haghighi, M.,** Pessarakli, M., Sheibanirad, A., Daneshmand, A., 2013. Wastewater as a partial source of nutrient solution for tomato plant growth. ASA-CSSA-SSSA International Annual Meetings, Tampa, Florida.
4. **Haghighi, M.,** Kafi, M., 2009. Toxic effect of cadmium as affected by humic acid on lettuce (*Lactuca sativa* L.) and antioxidant changes. Water, Energy, Environment and Society. India (Oral).
5. **Haghighi, M.,** Nikbakht, A., 2006. The research and current situation of damask rose (*Rosa damascena* Mill.) production and industry in Iran. 27th International Horticultural Congress (IHC). Seoul, South Korea.
6. **Haghighi, M.,** Kafi, M., 2006. Effects of decay level of SMC (Spent Mushroom Compost), media diameter and compound on turfculture in hydromulching method. 27th International Horticultural Congress (IHC). Seoul, South Korea.
7. **Haghighi, M.,** Ping, F., 2006. Effect of humic acid and monosodium glutamate on the germination of some vegetables. 27th International Horticultural Congress (IHC). Seoul, South Korea (Oral).
8. **Haghighi, M.,** Khaleghi, E., 2005. A study on replacing municipal solid waste (MSW) with spent mushroom compost (SMC) in Iran. International Symposium on Growing Media. Angers, France.
9. **Haghighi, M.,** 2005. The effect of best mulching media and cultivation time on the qualitative and quantitative characteristics of turfgrass in hydromulching system. International Symposium on Growing Media. Angers, France.
10. **Haghighi, M.,** 2005. Organic farming, disadvantage and sustainable agriculture. 5th International Conference of Asian Society of Agricultural Economics. Iran.
11. **Haghighi M.,** Tehranifar, A., 2004. Environmental therapy by using lawn culture and SMC for decreasing in respiratory and parasite disease. ‍Proceeding of 8th International People Plant Symposium and International Summit on Horticulture Therapy. Hyogo. Japan.
12. **Haghighi, M.,** Khaleghi, E., 2004. Aloe vera: A pharmacy in a plant. Proceeding of 8th International People Plant Symposium and International Summit on Horticulture Therapy. Hyogo. Japan.
13. **Haghighi, M.,** Khaleghi, E., 2004. Effects of building material and lawn culture on the environmental temperature of human community. Proceeding of 8th. International People Plant Symposium and International Summit on Horticulture Therapy. Hyogo. Japan.
14. **Haghighi, M.,** Khaleghi, E., 2004. The effect of horticulture therapy on Alzheimer’s disease. Proceeding of 8th International People Plant Symposium and International Summit on Horticulture Therapy. Hyogo. Japan.
15. **Haghighi, M.,** Khaleghi, E., 2004. The ability and potentials of medical plants production and herbal medicine in Iran. Proceeding of 8th International People Plant Symposium and International Summit on Horticulture Therapy. Hyogo. Japan.

**Selected National Presentations**

1. The effect of the application of growth regulators (auxin and gibberellin) on the growth and performance of sweet pepper. 2023. The 13th Congress of Horticultural Sciences of Iran.
2. Increasing the rooting of paper flower cuttings (Bougainvillea brasiliensi Raspberry Ice) using indole butyric acid hormone. 2021. The 12th Congress of Horticultural Sciences of Iran.
3. The effect of the presence or absence of aquaporin on some growth and physiological characteristics of tomato plants under temperature stress. 2021. The 12th Congress of Horticultural Sciences of Iran.
4. The effect of amino acids on kale under salinity stress. 2021. The fifth international congress on the development of agriculture, natural resources, environment and tourism in Iran.
5. Comparison of quality reduction of pepper, cabbage and celery in different methods of blanching and freezing after six months. 2019. The 11th National Congress of Horticultural Sciences of Iran.
6. The effect of melatonin application on the physiology and growth of sweet pepper under salt stress. 2019. The 11th National Congress of Horticultural Sciences of Iran.
7. The effect of silicon and nanosilicon on tomato greenhouse cultivation under drought stress conditions. 2018. The 5th National Congress of Hydroponics and Greenhouse Products.
8. Changes in the qualitative and quantitative characteristics of the fruit and the absorption of elements in grafted cucumbers under heat stress. 2018. The second international conference on applied research in agricultural sciences, natural resources and environment.
9. Investigating the effect of mycorrhizae on the growth and photosynthetic activity of greenhouse vegetables. 2018. The second national conference of new achievements in agriculture and plant breeding.
10. The effect of mycorrhizal fungi as biofertilizer on the growth of lettuce. 2018. The second national conference of new achievements in agriculture and plant breeding.
11. Effect of salinity stress on vegetative and photosynthetic indicators of plants. 2017. The first international conference and the tenth national congress of horticultural sciences of Iran.
12. Investigating the germination and percentage of different local rootstocks for greenhouse cucumber grafting. 2015. The 9th Congress of Horticultural Sciences of Iran. Ahvaz.
13. The effect of calcium chloride and zinc sulfate on yield, firmness and vitamin C content of button mushroom. 2015. The 9th Congress of Horticultural Sciences of Iran. Ahvaz.
14. The effect of nutritional stress on stress indicators in fast-growing vegetables in hydroponic cultivation. 2014. The third congress of hydroponics and greenhouse production. Karaj, Agricultural Engineering and Technical Research Institute.
15. The effect of different culture media on the absorption of elements by the tomato plant (*Lycopersicum esculentum*). 2014. Karaj, Agricultural Engineering and Technical Research Institute.
16. Effect of salinity levels on seed germination of three varieties of Ivanki, Gargab and Mashhadi melons. 2013. The first national electronic conference on new topics in horticulture. Jahrom.
17. Investigating the use of iron and nano-iron in tomato gene type on its growth and physiological characteristics. 2013. The first national electronic conference on new topics in horticulture. Jahrom.
18. Investigating the effect of selection for resistance to greening in three indigenous populations of onion. 2013. The first national electronic conference on new topics in horticulture. Jahrom.
19. Identification and propagation of non-sterile onion genotypes in 7 indigenous stands of Iran. 2013. The first national electronic conference on new topics in horticulture. Jahrom.
20. The effect of salinity stress on the germination of Isfahan native carrot seeds. 2012. The first national conference on strategies to achieve sustainable development.
21. The possibility of planting ornamental cabbage in soil contaminated with cadmium and lead in the green space. 2012. The first national conference on strategies to achieve sustainable development. Tehran.
22. The effect of using silicon and nano-silicon in reducing the effects of salinity stress in tomatoes. 2012. Third National Conference of Agricultural Sciences and Food Industries, FASA.
23. Investigating the possibility of planting 3 native ornamental grasses in soils contaminated with oil pollutants. 2012. Second National Congress of Hydroponics and Greenhouse Products. Mahalat.
24. Effect of Luffacylindrica plant in cadmium purification in hydroponic cultivation of cucumber. 2012. Second National Congress of Hydroponics and Greenhouse Products. Mahalat.
25. The effects of titanium on the growth and nutrient absorption of tomato in water culture conditions. 2012. The second national congress of hydroponics and greenhouse products. Mahalat.
26. Investigating the effect of humic acid on the growth and yield of tomatoes in greenhouses. 2012. The first agricultural congress in difficult environmental conditions. Ramhormez.
27. The effect of salinity on germination and growth indicators of tomato seedlings. 2012. The first agricultural congress in difficult environmental conditions. Ramhormez.
28. The effect of different levels of dryness on germination and growth indicators of tomato seedlings. 2012. The first agricultural congress in difficult environmental conditions. Ramhormez.
29. The effect of humic acid on the germination of lettuce seeds under drought stress. 2012. The first agricultural congress in difficult environmental conditions. Ramhormez.
30. The effect of organic matter on the germination of lettuce seeds under salinity stress conditions. 2012. The first agricultural congress in difficult environmental conditions. Ramhormez.
31. Investigating the effect of using superabsorbent polymers on the growth and yield of tomatoes in greenhouse conditions. 2012. The first agricultural congress in difficult environmental conditions. Ramhormez.
32. Accelerating the germination of Marigold and pepper seeds by using carbon nanotubes. 2011 The 7th Congress of Horticultural Sciences of Iran. Isfahan University of Technology. Isfahan.
33. The effect of humic acid on the absorption of copper nanoparticles in pepper germination. 2011. National Congress of New Agricultural Sciences and Technologies. Zanjan.
34. The effect of copper and nano-copper on pepper seed germination. 2011. National Congress of New Agricultural Sciences and Technologies.
35. Investigating the effect of seed priming with carbon nanotubes, nanotitanium and nanocopper on onion germination characteristics. 2011. National Congress of New Agricultural Sciences and Technologies.
36. Investigating the effect of different concentrations of humic acid in nutrient solution on the growth characteristics of lettuce. 2011. National Congress of New Agricultural Sciences and Technologies.
37. Effect of nano silicon and potassium silicate on priming of tomato seeds. 2011. National Congress of New Agricultural Sciences and Technologies.
38. The effect of priming onion, tomato and lettuce seeds under organic conditions. 2011. The second seed science and technology conference.
39. The effect of seed priming with copper nanoparticles on the characteristics of germination and growth of two plant species from the Sanan and Chalipaian potato families. 2011. The second seed science and technology conference.
40. How computers work to control environmental conditions in the greenhouse. 2005. National greenhouse technology conference.
41. Therapeutic environment by planting grass through SMC of edible mushrooms in order to reduce respiratory and parasitic diseases. 2004. General conference of biology students and society and a look to the future.
42. The effects of construction materials and grassed surfaces on the temperature of the human comprehensive environment. 2004. The international conference of biology students and society and a look to the future, Mashhad.
43. Replacing MSW (Municipal Solid Waste) with SMC (Spent Mushroom Compost), Agricultural Science Students'. 2004. Congress all over the country, Tarbiat Modares University.
44. Investigating the effect of SMC substrate in increasing the quantitative and qualitative factors of grass. 2003. The third national conference on the development of the use of biological materials and the optimal use of fertilizers and poisons in agriculture.
45. Use of agricultural organic waste in periodic production of mushrooms and grass. 2003. The first national conference on the investigation of agricultural product waste. Tarbiat Modares University.
46. Investigating lawn care problems in Iran. 2003. The first congress of agricultural science students across the country. University of Gilan.
47. Bioassay of auxin: the effect of 4-CPA and IBA on the split stem of chickpea. 2003. The first congress of agricultural science students across the country. University of Gilan.
48. The effect of concentrations of 0, 200, 400 ppm of etheron (Etherl) on the growth indices of tomato seedlings. 2003. The first congress of agricultural science students across the country. Gilan University, Rasht.
49. The use of agricultural organic wastes. 2003. Presented in the research week of Ferdowsi University of Mashhad and among the posters selected and appreciated in this university.

**Books and Chapters**

Paul, A., Dasgupta, D., Hazra, S., Chakraborty, A., **Haghighi, M.,** Chakraborty, N.,2023. Membrane bioreactor: a potential expertise for wastewater treatment. Springer, Singapore. https://doi.org/10.1007/978-981-19-9176-9\_6.

Shamim, N., Paul, A., **Haghighi, M.,** Chakraborty, N., 2023. Role of diverse classes of terpenoids in tolerance against different environmental stresses. Publisher: CRC Press. http://dx.doi.org/10.1201/9781003346173-6.

Esmaielpour, B., **Haghighi, M.,** 2021.Plant nutrition and resistance to abiotic stresses. Mohaghegh Ardabili University Publications.

Abolghasemi, R., **Haghighi, M.,** 2021. Principles of production and application of edible mushrooms. Isfahan University of Technology Press.

**Haghighi, M.**, 2021. Principles of planting and cultivating vegetables from planting to harvesting. Isfahan University of Technology Press.

**Haghighi, M.,** 2021. Principles of planting and cultivating vegetables from planting to harvesting Isfahan University of Technology Press. (Second edition).

Kohan, A., **Haghighi, M.**, 2017. Practical guide to acupunic cultivation. Isfahan University of Technology Press.

**Haghighi, M.,** Sheibanirad, A., Pessarakli, M., 2016. Handbook of cucurbits growth, cultural practices, and physiology. CRC Press.

**Haghighi, M.,** Sheibanirad, A., Golkar, P., 2016. Cucurbitaceae (physiology, breeding and culture of cucurbitaceae). Isfahan University of Technology Press.

**Haghighi, M.,** Nourbakhsh, A., Mozafarian, M., 2014. Disorders pests and diseases of mushroom. Isfahan University of Technology Press.

**Book editing**

Nikbakht, A., Kafi, M., 2010. Iranian *Rosa damascena*. Isfahan University of Technology Press.

**Patents**

1. Transcriptome architecture reveals genetic networks of bolting regulation in spinach. 2019.
2. Mushroom fortified drink with natural sweetener. Jan 2017.
3. Diet tea containing Carla plant. June 2014.
4. Use of plant wastes to produce zinc bionano fertilizer for plant nutrition. Oct 2013.

**Awards, Fellowships and Grants**

1. 2% of the world's most cited researchers in 2024.
2. 2% of the world's most cited researchers in 2023.
3. UNESCO research merit fellowship (Great Wall) in China. Zhejiang University, Hangzhou. Sep.2005- Aug. 2006.
4. Iranian Ministry of Science research fellowship. Massey University, New Zealand. March 2008- September 2008.

**Editorial team**

1. Member of The Academy of science, Islamic Republic of Iran.
2. Editorial member of Journal of Horticulture Science, Ferdowsi University of Mashhad
3. Editorial member of Iranian Journal of Horticultural Science and Technology. Shiraz University

**Workshop Organized**

1. Hydroponic cultivation. 2015. Isfahan University of Technology.

2. Transplanting pumpkins. 2014. Isfahan University of Technology.

3. Cultivation of edible mushrooms. 2014. Isfahan University of Technology.

4. Production of vegetable seedlings. 2013. Isfahan University of Technology.

5. Hydroponic cultivation of vegetables. 2013. Hormozgan University.

6. Types of hydroponic cultivation systems. 2010. Soilless Cultivation Center, Isfahan University of Technology.

7. Hydroponic cultivation of strawberries and vegetables, in 2 periods. 2010. Shiraz University.

**Participation in the international training workshop**

International workshop on Industrial Agriculture and Pest control. 16-30 October .2005. Shaoxing, China

**International Work Experience**

1. Researcher in **British Colombia University**, Vancouver, Canada, 2017
   1. Silica accumulates in non-glandular trichomes and sites of powdery mildew infection in *Cannabis sativa* L.
2. Researcher in **Arizona University**, USA in 2012
   1. Effects of mycorrhiza inoculation on cucumber growth irrigated with saline water
   2. Effects of selenium as a beneficial element on growth and photosynthetic attributes of greenhouse cucumber
   3. Effects of Ammonium Nitrate and Monosodium Glutamate in Waste Water on the Growth, Antioxidant Activity, and Nitrogen Assimilation of Lettuce (*Lactuca sativa* L.).
3. Research officer in **Zhejiang University**, China, 2005-2006 on:
   1. Effect of humic acid on cadmium absorption, antioxidant activity and physiological characteristics of lettuce (*Lactuca sativa*).
   2. Effect of humic acid and amino acid usage in nutrient solution on lettuce physiology and biochemistry
   3. Effect of humic acid and amino acid on the physiological and N metabolism of tomato
   4. Effect of humic acid and monosodium glutamate on the germination of some vegetable crops
4. Researcher in **University of Cordoba**, Spain on effect of salinity and pH on cadmium absorption by tomato (2008).
5. Researcher in **University of Massey**, New Zealand in 2007
   1. The effect of PRD (Partial rootzone irrigation) on processing tomato production (2008).

on effect of biosolid on toxicity of leafy vegetable (lettuce, celery, parsley) and changes of defensive system of them by Copper and Zinc

**Some Researches Topics**

Comparison of the effect of plant nutrition on growth indicators and some chemical characteristics of two mint cultivars (supervisor).

Application of abscisic acid and melatonin nanocapsules in two cultivar of bell pepper under salt stress (supervisor).

The effect of bio and nano phosphorus on the growth and biochemical characteristics of tomato (*solanum lycopersicon*) (supervisor).

Effect of GABA foliar application on salinity stress tolerance improvement in *Mentha piperita* L (supervisor).

Investigating the use of wavelengths of three LED light sources on morphological and physiological characteristics of different dill cultivars (*Anethum graveolens* L.) (supervisor).

Investigating the nutritional quality of microgreen medicinal plants under the influence of LED (supervisor).

The effect of LED light on the absorption changes of silicon, Nano silicon and bio silicon in sweet pepper (supervisor).

Effect of nano silica on physiological, phytochemical and molecular characteristics of rose (*Rosa damascena* Mill) under water stress (Co supervisor).

Investigating the effect of LED lights and drought stress on the growth, yield and essential oil content of *Pelargunium graveolens* (Co supervisor).

The effect of different treatments of LED light and drought stress on the morphological characteristics and the amount of essential oil of hyssop (*Hyssopus officinalis*) (Co supervisor).

The use of plasma activated water to increase the shelf life and improve the quality of cherry tomatoes (supervisor).

The effect of different organic residues on soil physical properties and spinach plant responses (advisor).

1. The effect of salt and melatonin on growth and physiology of sweet pepper (supervisor).
2. Comparison the effect of abrupt low temperature stresses of root and shoot on the recovery rate of vegetative and physiological traits of tomato (supervisor).
3. The effect of melatonin application on the physiology and growth of sweet pepper (*Capsicum annuum* L.) under salt stress (supervisor).
4. The effect of some growth enhancing factors on the yield of the mushroom and its post-harvest life (supervisor).
5. The effect of vehicle exhaust pollution on some morphological and physiological characteristics of lettuce and spinach (supervisor).
6. Comparison the effect of short term and gradual drought and flooding stress on water relation and physiological change of sweet pepper (supervisor).
7. The effect of pine wood vinegar on germination, vegetative growth and photosynthetic characteristics of cucumber and basil (supervisor).
8. Comparison the effect of short low temperature low stress on root and shoot on the recovery rate of vegetative and physiological traits of tomato. (supervisor)
9. Changes in K and Fe release from Phlogopite in Alfalfa Rhizosphere under calcareous conditions as affected by om treatment (supervisor).
10. Effect of exogenous spermidine and nitric oxide on growth and gas exchange parameters in Iranian mandarin Bakraii (*Citrus reticulata × Citrus limetta*) under salinity stress (Co supervisor)
11. The effect of vehicle exhaust pollution on some morphological and physiological characteristics of lettuce and spinach (supervisor)
12. The effect of different endemic rootstock of cucurbits on low temperature stress of grafted cucumber ‘Super daminos’ (supervisor)
13. The effect of short term temperature stress with H2O2 and CaCl2 on two pepper species (Hot and Bell pepper) in different growth stage (supervisor)
14. Effect of salinity stress on iranian melons (*Cucumis melon*) iandvaces(supervisor)
15. A comparison of physiological parameters and expression of PSY gene in green and Yellow Bell Pepper, affected by salinity stress (supervisor)
16. The effect of some growth enhancing factors on the yield of the mushroom and its post-harvest life (supervisor)
17. The effect of root zone temperature on N metabolism, growth and physiological characteristics of lettuce and sweet pepper in 3 n withholding levels in early growth stage
18. The effect of carbon nanotubes on the seed germination of four vegetable species
19. Study the effect of TiO2 on seed germination of tomato, onion and radish
20. Carbon nanotubes (CNTs) could promote seed germination in three horticultural crops
21. The effect of Si and Nano-Si on tomato production in salinity stress in hydroponics
22. The effect of using super absorbent in media under deficit irrigation on the quantity and quality characteristics of tomato
23. The effect of humic acid in nutrient solution on element absorbtion of lettuce
24. The effect of Si and Nano- Si on germination and seedling growth of tomato under drought and salinity stress
25. The effect of Ca spray under deficit irrigation regime on the quantity and quality characteristics of tomato. (supervisor)
26. Study of absorbtion potential of Pb and Cd by ornamental kale (*Brassica oleracea* var. acephala).( Co-supervisor )
27. Effect of silicon nutrition on antioxidative response of two cucumber genotypes to salinity stress and cadmium toxicity. (Co-supervisor)
28. The effect of salinity and cadmium on spinach growth. (Co-supervisor)
29. Phytoremediation potentials of alkylated polycyclic aromatic hydrocarbons of Isfahan refinery with some ornamental endemic plants. (Co-supervisor)
30. The potential of two endemic cultivars of *Sisymbrium irio* in Zn, Cd, Pb remediation. (Co-supervisor)
31. The effect of boron on the reduction of low temperature stress in the root and aerial part of tomato in the vegetative stage
32. The effect of drought stress and ectomycorrhizal fungus symbiosis on growth and physiological characteristics of some pine species in the juvenile period
33. The effect of irrigation with water coming out of hybrid wetlands on the growth of bell peppers
34. Seed germination and growth of Lisianthus seedlings (*Eustoma grandiflorum*) under cooling, light and seaweed extract treatment
35. Setting the source-destination relationship in sweet pepper and investigating the changes in food movement model, yield and fruit quality in low-light greenhouse
36. Morphology, phenology and physiology of some spinach populations and genes effective in flowering
37. The effect of spraying potassium silicate and cytokinin on increasing tolerance to high temperature stress in bell pepper
38. Comparison of the effects of drought stress and short-term and gradual flooding on water relations and physiological changes of sweet pepper
39. The mutual effect of hormone application (auxin and gibberellin) and fruit pruning on the growth and yield of two bell pepper cultivars
40. Evaluation of the post-harvest properties of tomatoes treated with tomato, olive, willow, plantain and elm leaf extracts.
41. Evaluation of growth and morphological characteristics of Iranian and Afghani melon stands under salinity stress for greenhouse cultivation
42. Investigating the genetic diversity of some Iranian and Afghan Melon populations using morphological and molecular markers
43. Evaluation of increasing seed germination and seedling growth of pepper, tomato, cucumber, celery and cantaloupe using ultrasound waves
44. Investigating the power of growth and remedial plants of two types of grass to create a green space in soil contaminated with oil sludge
45. The effect of root zone temperature on nitrogen metabolism, growth and physiological characteristics of lettuce and green bell pepper at three levels of nitrogen in the early stages of growth.
46. The effect of preparation, freezing and defrosting stages on the quality and nutritional value of three types of vegetables: bell pepper, celery and cabbage
47. The effect of silicon nutrition on the antioxidant response of two cucumber genotypes to salinity stress and cadmium toxicity
48. Antioxidative response of two cucumber cultivars to different levels of nickel deficiency and toxicity in hydroponic environment
49. The effect of pine wood vinegar on germination, vegetative growth and reproductive characteristics of cucumber and basil
50. Evaluation of genetic diversity within and between several Iranian leek populations using the molecular marker SRAP and measurement of antioxidant activity.
51. The use of plant residues for the production of bio-nanoparticles for tomato nutrition
52. The effect of salinity stress on cucumber plants grafted on different bases
53. The effect of calcium chloride and zinc sulfate on the performance and quality of button mushroom
54. The effect of nitrogen source on vegetative growth of grafted cucumber on different rootstocks of the cucurbit family
55. Investigating the effect of heat stress on the growth of grafted cucumbers on different bases of the cucurbit family
56. Investigating the effect of cold stress on the growth of grafted cucumbers on different bases of the cucurbit family
57. Evaluation of cucumber drought resistance using seedbag method
58. Investigating the effect of temperature on cadmium absorption and changing growth characteristics in lettuce
59. The effect of titanium and nano-titanium transgressive levels on changes in physiology, photosynthesis and absorption of other elements at different levels of nitrogen in tomato plants under water culture conditions
60. Investigating the effect of silicon and nano-silicon on the germination of Ghorgab melon seeds under salinity stress conditions
61. Mashhad melon seed germination in different sodium springs under salt stress

**Teachings**

1. Production of plant products (BSc). Shiraz University. 2010-2011.
2. Hydroponics (BSc). Isfahan University of Technology, 2010.
3. Flower and vegetable seed production. (BSc). Isfahan University of Technology.
4. Basics of gardening. (BSc). Isfahan University of Technology.
5. Warm season vegetables. (BSc). Isfahan University of Technology.
6. Cold season vegetables. (BSc). Isfahan University of Technology.
7. Organic products. (BSc). Isfahan University of Technology.
8. Edible mushroom production. (BSc). Isfahan University of Technology.
9. Physiology of vegetable plants. (M.Sc). Shiraz University. 2010-2011.
10. Cultivation of vegetable plants. (M.Sc). Isfahan University of Technology. 2011.
11. Cultivation of ornamental plants. (M.Sc). Isfahan University of Technology.
12. Production of vegetables in the greenhouse. (M.Sc). Isfahan University of Technology.
13. The effect of environmental stress on plant growth. (M.Sc). Isfahan University of Technology.
14. Plant nutrition. (M.Sc). Isfahan University of Technology.
15. Ecophysiology. (PhD). Isfahan University of Technology.
16. New topics in horticultural science. (PhD). Isfahan University of Technology.
17. Zucchini physiology. (PhD). Isfahan University of Technology.

**Project**

Evaluation of CaTs application on bell pepper in greenhouse. 2020.

The effects of petroleum hydrocarbons on morphological and physiological traits of two cultivars of bermudagrass.

1. The possibility of producing a culture medium for the cultivation of sweet peppers from mushroom compost waste.
2. The possibility of using different combinations of LED light to increase the quality and performance of mushroom in different phases of growth.
3. Increasing tolerance to heat stress in the greenhouses of Isfahan and central regions by using organic compounds.
4. The use of processed organic waste in the production of sweet pepper seedlings.
5. The effect of global warming on the growth of tomato during the application of wastewater.
6. Optimization of mushroom compost waste by using native and resistant *Suaeda aegyptiaca* plant to grow vegetables.
7. The effect of nanobubble oxygen on the growth and absorption of different forms (nano and aminoclate) of calcium and potassium in soilless cultivation of sweet pepper.
8. Investigating the amount of nano/micro plastic in agricultural soils of the province and its effect on physiology, morphology and plant health.

Study of morphological, phenological and physiological characteristics of some spinach landraces and identification of candidate genes involved in spinach flowering.

**Languages**

1. Persian (Native)
2. English