

Curriculum Vitae (CV)

Mohammad-Taghi Ebadi (Ph.D)

Associate Professor of Medicinal Plants and Spices (Physiology and Breeding)

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Research Interests

- ✓ Eco-physiology and Production of Medicinal Plants and Spices
- ✓ Processing of Medicinal Plants and Spices

Education

Tarbiat Modares University (TMU), Tehran, Iran

Ph.D. in Physiology and Breeding of Medicinal Plants and Spices (2010-2015)

Thesis Title: Investigation of Organic Manures, Irradiation, Drying Methods and Packaging on Quantitative and Qualitative Characteristics of Active Ingredients of Lemon Verbena (*Lippia citriodora* Kunth.).

Supervisors: Prof. Majid Azizi & Prof. Fatemeh Sefidkon

Ferdowsi University of Mashhad (FUM), Mashhad, Iran

M.Sc. in Horticultural Science (Medicinal Plants) (2007-2009)

Thesis Title: Effect of Sowing Date and Seeding Levels on Growth Factors, Flower Yield, Essential Oil Content and Composition of Presov Chamomile (*Matricaria recutita* L.)

Supervisor: Prof. Majid Azizi

Shahid Bahonar University of Kerman, Kerman, Iran

B.Sc. in Horticultural Science (2005-2007)

Thesis Title: Review about Common Thyme (*Thymus vulgaris* L.).

Supervisor: Prof. Mohammad-Hasan Fooladi

Ferdowsi University of Mashhad (FUM), Shirvan Agriculture Faculty, Shirvan, Iran

Pre-B.Sc. in Cultivation and Utilization of Medicinal and Aromatic Plants (2003-2005)

Honors

- ✓ Distinguished Iran student Award in 2009, Ministry of Science, Research and Technology.
- ✓ Exceptional Talent Committee Winner for Ph.D. entrance, 2010.
- ✓ National Festival of Iranian Youth in 2010, Ministry of Youth and Sports.
- ✓ IFEAT Young Scientist Sponsorship in 2019. 50th International Symposium on Essential Oils. Vienna, Austria

Teaching Experiences

- **Ferdowsi University of Mashhad (FUM)**, Mashhad, Iran, 2008-2009. Cultivation of Medicinal and Aromatic Plants & Domestication of Medicinal and Aromatic Plants.

- **Ferdowsi University of Mashhad (FUM)**, Mashhad, Iran, 2009-2010. Cultivation of Medicinal and Aromatic Plants.
- **Giahdaneh School (Technical and Vocational Training Organization)**, Tehran, Iran, 2014. User of Essential oils.
- **Tarbiat Modares University (TMU)**, Tehran, Iran, 2016-2024. "Agro-industrial Design of Medicinal and Aromatic Plants", "Physiology of Medicinal Plants", "Identification and Introducing Native Medicinal Plants of Iran", "Eco-physiology of Seeds", "Plant Nutrition and Metabolism", "Physiology of Vegetable Crops", "Special Methods of Vegetable Growing", "Post-harvest Technology", "Marketing for Medicinal and Industrial Plants" and "Utilization and Processing of Medicinal and Industrial Plants".

Work Experiences

- Advisor of Project Entitled "Ecological Garden of Medicinal and Aromatic Plants". 2004 & 2007. Client: Ferdowsi University of Mashhad, Iran.
- Supervisor of Project Entitled "Cultivation and Processing of Medicinal and Aromatic Plants". 2008-2010.
- Editor of E-Newsletter. 2010- 2012. Iranian Medicinal Plants Society (IMPS).
- Editor of the Educational & News Network of Medicinal Plants (www.medplant.ir). 2012- Now.
- Advisor of Project Entitled "Garden Museum of Medicinal Plants". 2015-2016.
- Scientific Advisor for the radio program "Hidden Treasure" on Economy Radio, focusing on Iran's value-added role in the production, processing, and trade of medicinal plants (Winter 2015 - Spring 2016).
- Collaboration in organizing the commemoration event for the scientific and cultural contributions of Dr. Abolghasem Soltani and the late Dr. Ali Zargari, hosted by the Tehran Province Elite Foundation, November 2016.
- Member of the Executive Committee for the 1st International Conference and the 10th National Congress on Horticultural Science of Iran (IrHC2017).
- International Affairs Coordination Advisor at the National Medicinal Plants Project Office (Ministry of Agriculture), February 2019.
- Head of the Department of Horticultural Sciences, Tarbiat Modares University (December 2022 – November 2024).
- Chair of the "Horticulture and Human Health (Medicinal and Aromatic Plants)" Branch of the Iranian Society for Horticultural Science (IrSHS) (March 2024 – September 2025).
- Advisor of Some Companies for Cultivation, Processing and Trade of Medicinal and Aromatic Plants. 2008-Now.

Publications

Articles:

- Shahhoseini, R., Beyraghdar, A., Karimi, S. R., & Ebadi, M.T. (2013). Essential oil content and composition of lemon verbena (*Lippia citriodora* Kunth.) during different phenological stages. *Journal of Medicinal Plants and By-Products*, 2(2), 205-208.
- Hosseinkazemi, H., Biazar, E., Bonakdar, S., Ebadi, M.T., Shokrgozar, M. A., & Rabiee, M. (2015). Modification of PCL electrospun nanofibrous mat with *Calendula officinalis* extract for improved interaction with cells. *International Journal of Polymeric Materials and Polymeric Biomaterials*, 64(9), 459-464.
- Ebadi, M.T., Azizi, M., Sefidkon, F., & Ahmadi, N. (2015). Influence of different drying methods on

- drying period, essential oil content and composition of *Lippia citriodora* Kunth. *Journal of Applied Research on Medicinal and Aromatic Plants*, 2(4), 182-187.
- Ebadi, M.T., Sefidkon, F., Azizi, M., & Ahmadi, N. (2017). Packaging methods and storage duration affect essential oil content and composition of lemon verbena (*Lippia citriodora* Kunth.). *Food Science & Nutrition*, 5(3), 588-595.
- Labruzzo, A., Carrubba, A., Di Marco, G., & Ebadi, M.T. (2017). Herbicidal potential of aqueous extracts from *Melia azedarach* L., *Artemisia arborescens* L., *Rhus coriaria* L. and *Lantana camara* L. *Allelopathy Journal*, 41(1), 81-92.
- Shahhoseini, R., Saeidi, K., Babaahmadi, H., & Ebadi, M.T. (2018). Effect of fertilizers and superabsorbent hydrogel on the yield, essential oil content and composition of lemon verbena (*Lippia citriodora* Kunth.) cultivated in Iran. *Journal of Essential Oil Bearing Plants*, 21(1), 230-236.
- Hoseini, S. S., Najafi, G., Ghobadian, B., Mamat, R., Ebadi, M.T., & Yusaf, T. (2018). Novel environmentally friendly fuel: The effects of nanographene oxide additives on the performance and emission characteristics of diesel engines fuelled with *Ailanthus altissima* biodiesel. *Renewable energy*, 125, 283-294.
- Hoseini, S. S., Najafi, G., Ghobadian, B., Yusaf, T., & Ebadi, M. (2018). The effects of *Camelina "Soheil"* as a novel biodiesel fuel on the performance and emission characteristics of diesel engine. *Applied Sciences*, 8(6), 1010.
- Hoseini, S. S., Najafi, G., Ghobadian, B., Mamat, R., Ebadi, M.T., & Yusaf, T. (2018). *Ailanthus altissima* (tree of heaven) seed oil: Characterisation and optimisation of ultrasonication-assisted biodiesel production. *Fuel*, 220, 621-630.
- Hoseini, S. S., Najafi, G., Ghobadian, B., Mamat, R., Ebadi, M.T., & Yusaf, T. (2019). Characterization of biodiesel production (ultrasonic-assisted) from evening-primroses (*Oenothera lamarckiana*) as novel feedstock and its effect on CI engine parameters. *Renewable energy*, 130, 50-60.
- Ebadi, M.T., Abbasi, S., Harouni, A., & Sefidkon, F. (2019). Effect of cold plasma on essential oil content and composition of lemon verbena. *Food science & nutrition*, 7(4), 1166-1171.
- Rezaei, S., Ghobadian, B., Ebadi, M.T., Jangi, F., & Ghomi, H. (2019). Effects of cold plasma on the color parameters of Hyssop (*Hyssopus officinalis* L.) using color imaging instrumentation and spectrophotometer. *Color Research & Application*, 45(1): 29-39.
- Hazrati, S., Ebadi, M.T., Mollaei, S., & Khurizadeh, S. (2019). Evaluation of volatile and phenolic compounds, and antioxidant activity of different parts of *Ferulago angulata* (schlecht.) Boiss. *Industrial Crops and Products*, 140, 111589.
- Norani, M., Ebadi, M.T., & Ayyari, M. (2019). Volatile constituents and antioxidant capacity of seven *Tussilago farfara* L. populations in Iran. *Scientia Horticulturae*, 257, 108635.
- Hoseini, S. S., Najafi, G., Ghobadian, B., Ebadi, M.T., Mamat, R., & Yusaf, T. (2020). Biodiesels from three feedstocks: The effect of graphene oxide (GO) nanoparticles diesel engine parameters fuelled with biodiesel. *Renewable Energy*, 145, 190-201.
- Hoseini, S. S., Najafi, G., Ghobadian, B., Ebadi, M.T., Mamat, R., & Yusaf, T. (2020). Performance and emission characteristics of a CI engine using graphene oxide (GO) nano-particles additives in biodiesel-diesel blends. *Renewable Energy*, 145, 458-465.
- Navab Safa, N., Dorraki, N., Ebadi, M.T., Maroofi, A., Ghasempour, A., & Ghomi, H. (2020). Decontamination of peppermint distillate using spark plasma: microbiological and physicochemical evaluation. *Journal of Food Science and Technology*, 57(9), 3314-3322.
- Hazrati, S., Govahi, M., Ebadi, M.T., & Habibzadeh, F. (2020). Comparison and evaluation of oil content, composition and antioxidant properties of *Pistacia atlantica* and *Pistacia khinjuk*

- grown as wild. *International Journal of Horticultural Science and Technology*, 7(2), 165-174.
- Mokhtarikhah, G., Ebadi, M.T., & Ayyari, M. (2020). Qualitative changes of spearmint essential oil as affected by drying methods. *Industrial Crops and Products*, 153, 112492.
- Hoseini, S. S., Najafi, G., Moazzez, A. F., Hazrati, S., Ebadi, M.T., & Yusaf, T. (2020). Potential of *Chrozophora tinctoria* seed oil as a biodiesel resource. *Applied Sciences*, 10(10), 3473.
- Mokhtarikhah, G., Ebadi, M.T., & Ayyari, M. (2020). Qualitative changes of spearmint essential oil as affected by drying methods. *Industrial Crops and Products*, 153, 112492.
- Saebi, A., Minaei, S., Mahdavian, A., & Ebadi, M.T. (2021). Precision harvesting of medicinal plants: elements and ash content of hyssop (*Hyssopus officinalis* L.) as affected by harvest height. *Biological Trace Element Research Journal*, 199, 753–762.
- Saebi, A., Minaei, S., Mahdavian, A. R., & Ebadi, M.T. (2021). Quantity and quality of hyssop (*Hyssopus officinalis* L.) affected by precision harvesting. *International Journal of Horticultural Science and Technology*, 8(3), 271-284.
- Hazrati, S., Lotfi, K., Govahi, M., & Ebadi, M.T. (2021). A comparative study: Influence of various drying methods on essential oil components and biological properties of *Stachys lavandulifolia*. *Food Science & Nutrition*, 9(5), 2612-2619.
- Rezaei, S., Ebadi, M.T., Ghobadian, B., & Ghomi, H. (2021). Optimization of DBD-Plasma assisted hydro-distillation for essential oil extraction of fennel (*Foeniculum vulgare* Mill.) seed and spearmint (*Mentha spicata* L.) leaf. *Journal of Applied Research on Medicinal and Aromatic Plants*, 24, 100300.
- Jangi, F., Ebadi, M.T., & Ayyari, M. (2021). Qualitative changes in hyssop (*Hyssopus officinalis* L.) as affected by cold plasma, packaging method and storage duration. *Journal of Applied Research on Medicinal and Aromatic Plants*, 22, 100289.
- Yadegari, H., Khammari, I., Fakheri, B., Nouri, A., & Ebadi, T. (2021). Flavonolignans of milk thistle (*Silybum marianum* L.) seeds affected by fertilization type and plant genotype. *International Journal of Horticultural Science and Technology*, 8(4), 371-384.
- Mousavi, S. A., Dalir, N., Rahnemaie, R., & Ebadi, M.T. (2021). Phosphate concentrations and methionine application affect quantitative and qualitative traits of valerian (*Valeriana officinalis* L.) under hydroponic conditions. *Industrial Crops and Products*, 171, 113821.
- Jangi, F., Ebadi, M.T., & Ayyari, M. (2022). Qualitative characteristics of hyssop (*Hyssopus officinalis* L.) under the influence of harvest time and drying methods. *Drying Technology*, 40(13), 2696-2709.
- Meftahizadeh, H., Ebadi, M.T., Baath, G. S., & Ghorbanpour, M. (2022). Variation of morphological and phytochemical traits in Roselle (*Hibiscus sabdariffa* L.) genotypes under different planting dates. *Acta Ecologica Sinica*, 42(6), 616-623.
- Rahmati, E., Khoshtaghaza, M. H., Banakar, A., & Ebadi, M.T. (2022). Decontamination technologies for medicinal and aromatic plants: A review. *Food Science & Nutrition*, 10 (3): 784-799.
- Mokhtarikhah, G., Ebadi, M.T., & Ayyari, M. (2022). Agro-morphological and phytochemical studies of spearmint landraces (*Mentha spicata* L.) in Iran. *Industrial Crops and Products*, 176, 114367.
- Rahmati, E., Khoshtaghaza, M. H., Banakar, A., & Ebadi, M.T. (2022). Decontamination technologies for medicinal and aromatic plants: A review. *Food Science & Nutrition*, 10(3), 784-799.
- Didehvar, M., Ebadi, M.T., & Ayyari Nooshabadi, M. (2022). An Environmentally-Friendly Method for Exploitation of Oleo-Gum-Resin from *Pistacia atlantica* Desf. Trees. *Journal of Nuts*, 13(2), 153-165.
- Shokoohi, F., Ebadi, M.T., Ghomi, H., & Ayyari, M. (2022). Changes in Qualitative Characteristics of Garden Thyme (*Thymus vulgaris* L.) as Affected by Cold Plasma. *Journal of Applied Research on*

Medicinal and Aromatic Plants, 100411.

- Hazrati, S., Hosseini, S. J., Ebadi, M.T., & Nicola, S. (2022). Evolution of Phytochemical Variation in Myrtle (*Myrtus communis* L.) Organs during Different Phenological Stages. *Horticulturae*, 8(9), 757.
- Norani, M., Crowford, A., Tahamtani, Y., Ebadi, M.T., & Ayyari, M. (2023). Extraction and Essential Oils Profiling of Different *Dorema ammoniacum* D. Don. Organs and Evaluation of Antioxidant Capacity. *Journal of Agricultural Science and Technology*, 25(3), 701-717.
- Almasi, S., Najafi, G., Ghobadian, B., & Ebadi, M.T. (2023). Waste to fuel: biodiesel production from bitter orange (*Citrus aurantium*) seed as a novel bio-based energy resource. *Biomass Conversion and Biorefinery*, 13(8), 6543-6552.
- Moradi-Sadr, J., Ebadi, M.T., Ayyari, M., & Ghomi, H. (2023). Optimization of ultrasonic Bath and cold plasma pre-treatments in the spearmint essential oil isolation process. *Food Science & Nutrition*, 11(4), 1904-1915.
- Zamani, S., Bakhshi, D., Sahraroo, A., & Ebadi, M.T. (2023). Improvement of phytochemical and quality characteristics of *Dracocephalum kotschy* by drying methods. *Food Science & Nutrition*, 11(7), 4246-4262.
- Norani, M., Ebadi, M.T., Yadegari, M., & Ayyari, M. (2023). Study of essential oil and effect of temperature and seed appendages (pappus) on germination characteristics in coltsfoot. *Journal of Medicinal plants and By-product*, in Press.
- Ghasemi, G., Ayyari, M., Azimi, M. H., & Ebadi, M.T. (2023). Orris root diversity and quality assessment: Multivariate analysis of phytochemicals and antioxidant properties. *Industrial Crops and Products*, 202, 116935.
- Moradi-Sadr, J., Ebadi, M.T., & Ayyari, M. (2023). Steps to achieve carvone-rich spearmint (*Mentha spicata* L.) essential oil: a case study on the use of different distillation methods. *Frontiers in Plant Science*, 14, 1292224.
- Nikkhah, A., Nikkhah, H., Shahbazi, A., Zarin, M. K. Z., Iz, D. B., Ebadi, M.T., Fakhroleslam, M., & Beykal, B. (2024). Cumin and eucalyptus essential oil standardization using fractional distillation: Data-driven optimization and techno-economic analysis. *Food and Bioprocess Processing*, 143, 90-101.
- Shokoohi, F., Ebadi, M.T., Ghomi, H., Rezaeinezhad, A. R., & Faghieh Haghani, S. (2024). Increasing the efficiency of cumin essential oil extraction using cold plasma pretreatments. *Journal of the Science of Food and Agriculture*, 104 (9): 5001-5009.
- Rahmati, E., Khoshtaghaza, M. H., Banakar, A., Ebadi, M.T., & Hamidi-Esfahani, Z. (2024). Continuous decontamination of cumin seed by non-contact induction heating technology: Assessment of microbial load and quality changes. *Heliyon*, 10 (4): e25504
- Najafi, G., Shadidi, B., Mamat, R., Safieddin Ardebili, S. M., Hazrati, S., Ebadi, M.T., & Ghazali, M. F. (2024). Multi-objective optimization of the performance and emissions characteristics of a CI engine powered by *Pyrus glabra* biodiesel as a novel feedstock using response surface method. *Biofuels*, 15 (9): 1099-1108.
- Mahdavia, F., Ebadi, M.T., Shojaeiyan, A., Ayyari, M., & Falahati-Anbaran, M. (2024). Genetic variation and structure of endemic and endangered wild celery (*Kelussia odoratissima* Mozaff.) quantified using novel microsatellite markers developed by next-generation sequencing. *Frontiers in Plant Science*, 15, 1301936.
- Saebi, A., Minaei, S., Mahdavian, A. R., & Ebadi, M.T. (2024). Development and Evaluation of a Prototype Precision Harvesting Unit for Medicinal Plants—Tested on *Hyssopus officinalis* L. *International Journal of Horticultural Science and Technology*, 11(3), 369-380.

- Mahmoudi, A., Ebadi, M.T., & Ayyari, M. (2024). Qualitative changes of Blue eryngo (*Eryngium planum* L.) phytochemicals as affected by different drying methods. *Journal of Applied Research on Medicinal and Aromatic Plants*, 40, 100543.
- Hazrati, S., Rostami, N., Mohammadi, H., & Ebadi, M.T. (2024). Improving the growth parameters, yield, and oil quality of camelina in rainfed farming due to the combined use of biochar and supplementary irrigation. *Journal of Agriculture and Food Research*, 16, 101160.
- Nouri, A., Mofasseri, M., Jahani, R., Ghodrati, M., Emam, S. M. M., & Ebadi, M.T. (2024). Phytochemical composition, hypnotic activity, and antinociceptive properties of cumin essential oil collected from various geographical regions. *Food Science & Nutrition*, 12(11), 9025-9034.
- Nouri, A., Ebadi, M.T., Emam, S. M. M., & Mirabzadeh Ardakani, M. (2024). Phytochemical Evaluation and Chemotypic Variations in Improved Cultivars and a Native Landrace of Chamomile. *Agrotechniques in Industrial Crops*. In Press.
- Naseri, E., Dalir, N., Mokhtassi-Bidgoli, A., Ebadi, M.T., & Rahnemaie, R. (2025). Optimizing saffron cormlet production through substrate composition nutrient concentration and irrigation management in soilless cultivation. *Scientific Reports*, 15(1), 36.
- Ghasemi, G., Ayyari, M., Azimi, M. H., & Ebadi, M.T. (2025). Rapid alternative of the post-harvest process to enhance the irones content in *Iris germanica* L. *Journal of Agriculture and Food Research*, 101748.
- Saebi, A., Minaei, S., Mahdavian, A., & Ebadi, M.T. (2025). Numerical and Experimental Assessment of Separator Vessel Filter Pore Size in Supercritical CO₂ Extraction of Coriander Seed Essential Oil. *Chemical Engineering and Processing-Process Intensification*, 110257.
- Norani, M., Ebadi, M.T., & Ayyari, M. (2025). Eco-phytochemical Properties of Ten *Dorema ammoniacum* Populations in Different Climates of Iran. *International Journal of Horticultural Science and Technology*, 12(4), 1117-1142.

Books:

- Nadjafi, F., Ebadi, M.T., Abbasian, J. 2011. *Medicinal and Aromatic Crops: Harvesting, Drying, and Processing* (Translation). Shahid Beheshti University Press. 380 pages.
- Safaie, N., Mahdizadeh, V., Ebadi, M.T., Saeedi, A. 2013. *Medicinal Plants Diseases*. Agricultural Extension and Education Press. 388 pages.
- Kafi, M., Homayouni, GH., Ebadi, M.T., Zare, A. 2014. *Application of Medicinal and Aromatic Plants in Landscape Design and Healing Gardens*. Agricultural Extension and Education Press. 384 pages.
- Ebadi, M.T., Qahari Kermani, F. 2017. *Herb Processing Facility* (Translation). Agricultural Extension and Education Press. 57 pages.
- Yadegari, H., Ebadi, M.T., Jalilian, N. 2018. *Medicinal Trees and Shrubs (Production, Exploitation and Processing)*. Agricultural Extension and Education Press. 246 pages.
- Ebadi, M.T., Fakhroleslam, M., 2023. *Standardization and Processing of Essential Oils*. Agricultural Extension and Education Press. 158 pages.

Exclusive Documentaries:

- Asareh, M.H., Ebadi, M.T., Abbasian, J. 2014. *Exclusive Documentary on the Second National Festival and Exhibition on Medicinal Plants, Natural Products and Iranian Traditional Medicine*. 220 pages.
- Asareh, M.H., Ebadi, M.T., Abbasian, J. 2016. *Exclusive Documentary on the Third National Festival*

and Exhibition on Medicinal Plants, Natural Products and Iranian Traditional Medicine. 256 pages.

Asareh, M.H., Ebadi, M.T., Abbasian, J. 2018. Exclusive Documentary on the Forth National Festival and Exhibition on Medicinal Plants, Natural Products and Iranian Traditional Medicine. 238 pages.

Reviewer in International Journals

- Journal of Applied Research on Medicinal and Aromatic Plants. Elsevier
- Industrial Crops and Products. Elsevier
- Scientia Horticulturae. Elsevier
- Food Chemistry. Elsevier.
- Biocatalysis and Agricultural Biotechnology. Elsevier
- Biochemical Systematics and Ecology. Elsevier
- Journal of Ethnopharmacology. Elsevier
- LWT - Food Science and Technology. Elsevier
- Scientific Reports. Nature
- International Journal of Horticultural Science and Technology. IrSHS

Membership in National and International Scientific Associations

- Society for Medicinal Plant and Natural Product Research (GA)
- International Society for Horticultural Science (ISHS)
- Iranian Scientific Society of Medicinal Plants
- Iranian Society for Horticultural Science (IrSHS)
- Iranian Traditional Medicine Research Association (affiliated with the Center for Elite Talents, Tehran University of Medical Sciences) and Consultant for its Medicinal Plants Working Group (2011–2013)

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