

SEPIDEH ABEDI

Horticultural Science Specialist | Agricultural Consultant | Smart Agriculture Researcher

Plant Stress Diagnosis | Sustainable Crop Production | Soilless Greenhouse Systems

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PROFILE

Horticultural science specialist and agricultural technical consultant with more than 9 years of experience supporting farmers and agricultural producers in crop production, plant health, agricultural inputs, and field-based problem solving. Academic background in agricultural engineering, horticultural sciences, plant physiology, and vegetable crop breeding. Current work and research interests include smart agriculture, soilless greenhouse systems, plant stress diagnosis, crop monitoring, and explainable agricultural decision-support technologies.

CORE EXPERTISE

Horticultural Science	Agricultural Consulting	Plant Stress Diagnosis
Smart Agriculture	Greenhouse Management	Soilless Cultivation
Decision Support Systems	Agricultural Technology	Crop Monitoring
Precision Agriculture	Plant Physiology	Agricultural Research
Irrigation Management	Plant Nutrition	Analytical Skills

PROFESSIONAL EXPERIENCE

Agricultural Consultant

Apr 2017 – Present

Nature Horticulture (Nahalestan Tabiat)

Karaj, Iran

- Provide agricultural consulting services to farmers and growers with a focus on crop production improvement, horticultural practices, plant nutrition, and agricultural inputs.
- Conduct field visits to farms and orchards, assess crop conditions, identify production challenges, and provide technical recommendations.
- Develop crop nutrition programs, advise on agricultural input selection, and support farmers in improving crop quality and productivity.
- Promote sustainable agricultural practices, including biological pest management and environmentally responsible approaches for healthier crop production.
- Organize educational workshops and training sessions for farmers on plant nutrition, crop management, and modern agricultural practices.
- Apply horticultural knowledge, field observations, and technical analysis to provide practical solutions for agricultural production challenges.

EDUCATIONAL BACKGROUND

Master of Science in Agricultural Engineering – Horticultural Sciences – Plant Physiology and Vegetable Crop Breeding

2015 – 2017

Tehran, Iran

Islamic Azad University, Science and Research Branch

- Concentration: Plant Physiology and Vegetable Crop Breeding.
- Graduate studies included plant physiology, crop production, vegetable crop breeding, and applied agricultural research.

Bachelor of Science in Agricultural Engineering – Horticultural Sciences

2011 – 2014

Karaj, Iran

Islamic Azad University, Karaj Branch

- Undergraduate training in crop production, plant science, soil and water management, agricultural inputs, and foundational horticultural practices.

RESEARCH & INNOVATION PROJECT

Plant Response Diagnosis System (PRDS)

Apr 2026 – Present

Independent Agricultural Innovation Project

International / Remote

- Developing an explainable agricultural decision-support concept focused on greenhouse monitoring and early identification of plant stress in soilless cultivation systems.
- Combines horticultural knowledge, plant-response analysis, and smart monitoring concepts to support clearer diagnosis and practical greenhouse management decisions.
- Outputs include a demonstration dashboard, technical documentation, patent applications, and a research manuscript in preparation.

- Technical details are presented at a general level to protect intellectual property.

PATENTS & INTELLECTUAL PROPERTY

Australian Provisional Patent Application

- Title: Plant Response Diagnosis System for Hidden Stress Detection in Soilless Crops
- Application No.: 2026906226 | Filing Date: 12 July 2026 | Status: Patent Pending
- Applicant / Inventor: Sepideh Abedi | Authority: IP Australia
- Official record: ipsearch.ipaustralia.gov.au/patents/2026906226

International Patent Application (PCT)

- Title: Plant Response Diagnosis System for Hidden Stress Detection in Soilless Crops
- Application No.: PCT/IB2026/056322 | Filing Date: 21 June 2026 | Status: International Processing / Patent Pending
- Applicant / Inventor: Sepideh Abedi | Filing Language: English
- International publication details and final WO publication number are pending.

INTERNATIONAL HONORS & AWARDS

IFIA INV Members Gold Medal — Geneva, Switzerland | July 2026

- Awarded at the 6th International Invention and Innovation Competition for IFIA INV Title Holders for the **Plant Response Diagnosis System (PRDS)**.

WICO 2026 Gold Medal — World Invention Creativity Olympic | 2026

- Gold Medal awarded for the **Plant Response Diagnosis System (PRDS)** in recognition of innovation and research excellence in agricultural technology and smart farming solutions.

CERTIFICATIONS & MEMBERSHIPS

IFIA Innovation Standard (IIS) — International Federation of Inventors' Associations (IFIA) | July 2026

- International innovation credential recognizing the innovation quality and technical value of the PRDS invention.
- Verification Link: <https://ifia.com/prds/>

IFIA International Membership — International Federation of Inventors' Associations (IFIA) | June 2026

- International membership reflecting participation in the global invention and innovation community.
- Verification Link: <https://ifia.com/ir2026jun3283sxa/>

RESEARCH OUTPUT

Manuscript in Preparation: Plant Response Diagnosis System for Hidden Stress Detection in Soilless Crops

- Explores an explainable framework for greenhouse monitoring and plant-stress diagnosis using real greenhouse observations.
- Status: Internal final draft / not yet claimed as published.

RESEARCH INTERESTS

- Smart Agriculture and AgTech
- Plant Stress Physiology
- Soilless Greenhouse Production
- Greenhouse Monitoring and Decision Support
- Precision Agriculture
- Sustainable Crop Production
- Agricultural Innovation and International Collaboration

SELECTED SKILLS

Technical: Horticultural science; plant physiology; greenhouse management; soilless cultivation; irrigation and plant nutrition; crop monitoring; precision agriculture; decision-support systems; scientific writing; data interpretation; patent documentation.
Professional: Agricultural consulting; field assessment; technical reporting; analytical problem solving; project coordination; stakeholder communication.
Digital: Microsoft Word, Excel, PowerPoint, web dashboards, research tools, and data-analysis workflows.

LANGUAGES

Persian	Native
English	Professional working proficiency