

# Muhammad Saad

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## Consultant – Controlled Environment Agriculture

Expert in Mushroom Farming, Tissue Culture & Hydroponics

## Professional Summary

Expert in Controlled Environment Agriculture (CEA) with over 7 years of progressive experience in designing and managing mushroom farms, hydroponic systems, and plant tissue culture labs. Currently overseeing full-cycle operations including structure and layout design, crop planning, environmental control, and value addition at Qarshi Industries Pvt. Ltd. Specialized in spawn production, microbial contamination control, and ISO/GMP-compliant lab setup. Adept at transforming traditional farming into high-efficiency, sustainable controlled systems tailored to local and international standards.

## Key Skills

- Controlled Environment Agriculture (CEA) Systems Design
- Mushroom Farming & Spawn Production
- Hydroponic Crop Management
- Plant Tissue Culture & Micropropagation
- Farm Layout & Structure Designing
- GMP, ISO-17025, and Sterility Protocols
- SOP Development & Technical Documentation
- Value Addition & Post-Harvest Processing
- Microbial Quality Control & Testing
- Training & Advisory Services

## Professional Experience

### Assistant Manager

*Qarshi Industries Pvt. Ltd., Hattar, Haripur, Pakistan.*

*Jan 2025 – Present*

- Overseeing quality assurance procedures in tissue culture and mushroom production.
- Leading microbial quality control, media preparation, and environmental monitoring.
- Ensuring compliance with GMP, ISO-17025, and internal quality protocols.
- Supervising documentation and audits for sterilization and lab hygiene standards.
- Designing layouts and managing structure development for mushroom farms and hydroponic setups.
- Value addition through post-harvest processing and training modules.

### Executive – Tissue Culture Lab

*Qarshi Industries Pvt. Ltd., Hattar, Haripur, Pakistan.*

*Jul 2023 – Dec 2024*

- Conducted microbial analysis of raw materials, surfaces, and media.
- Standardized protocols for tissue culture and spawn preparation.
- Maintained quality documentation and sterility testing logs.

### Scientific Officer-1

*Qarshi Research International Pvt. Ltd., Hattar, Haripur, Pakistan.*

*Jul 2021 – Jun 2023*

- Performed microbiological testing for contamination control.
- Validated protocols for microbial load, water testing, and air quality monitoring.
- Developed SOPs in line with GMP and ISO standards.

### Microbiologist

*Kamal Homoeopathic Laboratory, Rawalpindi*

*Sep 2020 – Jun 2021*

- Conducted sterility testing and microbiological validation of raw and finished products.
- Supported troubleshooting and corrective actions for environmental contamination.

## Research Associate – Biotechnology Lab

*COMSATS University Islamabad, Abbottabad Campus*

*Aug 2017 – Jul 2018*

- Conducted PCR, DNA extraction, and microbial culturing for academic research.
- Assisted in high-impact biotechnology experiments and data documentation.

## Education

### MPhil in Microbiology

*Abbottabad University of Science and Technology, Pakistan.*

*2015 – 2017 | GPA: 3.4 / 4.0*

### BS (Hons.) in Botany

*Hazara University Mansehra, Pakistan.*

*2010 – 2014 | GPA: 3.02 / 4.0*

### Diploma in Information Technology (DIT)

*KP Board of Technical Education. Peshawar, Pakistan.*

*2012 – 2013 | Marks: 72.2%*

## Achievements

- Best Research Productivity Award – Directorate of Higher Education, KPK (2018)
- 1st Position in Provincial Science Model Exhibition, KPK (2008)
- INTEL Science Competition – Best Individual Project, Hazara Region (2008)

## Publications

Effective regeneration and transformation of potato Desiree variety with nucleotide diphosphate Kinase 2 using IAA and BAP. Pakistan Journal of Botany (2021)

DOI: 10.30848/PJB2021-1(22)

## Languages

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|--------------------------|-------------------|
| • Urdu (Fluent)          | • Pashto (Fluent) |
| • English (Intermediate) | • Arabic (Basic)  |