Baker D. Aljawasim

Graduate Student, Plant Pathology, Physiology, and Weed Sciences (PPWS), School of Plant and Environmental Sciences (SPES), Virginia Tech

(757)781-9959 bdal222@vt.edu 1444 Diamond Springs Road, Virginia Beach, VA

PROFESSIONAL SUMMARY

My broad interest is in developing sustainable agriculture through the use of biological control, precision technologies and the empowerment of farmers. My long-term goal is to initiate and manage novel scientific studies that lead to reducing chemical usage in agriculture and guide young scientists to contribute to a healthier food production system at a global level.

EDUCATION

PhD **Plant Pathology – Virginia Tech University** **Expected Spring 2025**
Thesis: "Optimization of Preventative Biorational Strawberry Disease Management Techniques"
Committee: Dr. Jayesh Samtani (chair), Dr. Mahfuz Rahman, Dr. Mark A. Williams, Dr. Abhilash Chandel.

M.S. **Plant Pathology – University of Kentucky** **May 2014**
Thesis: "Evaluation of PCR-Based Methods for Rapid, Accurate Detection and Monitoring of *Verticillium Dahliae* in Woody Host by Real-time Polymerase Chain Reaction"
Committee: Dr. Paul Vincelli (chair), Dr. Nicole Ward Gauthier, Dr. A Bruce Downie.

B.S. **Plant Protection – University of Kufa** **May 2007**
A.S. Plant Sciences
Minor Plant Protection

HONORS, AND AWARDS

2024 Plant Pathology Graduate fellowship, $1,988 (*Virginia Tech University*)
2024 Travel award to 2024 ICPPB & Biocontrol Conference, $680 (the Center for Advanced Innovation in Agriculture)
2023 P. Howard & Betsy Massey Horticulture award, $1,509 (*Virginia Tech University*)
2022 Bruce W. Perry award, $2,633 (*Virginia Tech University*)
2022 Plant Pathology Graduate award, $1,267 (*Virginia Tech University*)
2021 Graduate Student Assistantship (PhD) (*Virginia Tech University*)

2020	Honor, participating in the board examination committee (*President of AL-Muthanna University, Iraq*)
2011	Master's degree Scholarship (*HCED, Iraq*)
2011	Honor, top-performing employee at the university (*Dean of Agricultural College, University of Qadisiyah, Iraq*)
2010	Honor, top-performing employee at the university (*Dean of Agricultural College, University of Qadisiyah, Iraq*)
2009	Honor, top-performing employee at the university (*Dean of Agricultural College, University of Qadisiyah, Iraq*)

GRANTS

2024	"Soil disinfestation and rhizosphere bacterial treatments for disease and yield evaluation in annual hill strawberry plasticulture production system**".** My role: assisted the PI, Dr. Samtani, in drafting the proposal, $12,716 (*North American Strawberry Growers Association*)
2022-23	"Assessing the soil microbiome population shift after soil disinfestation and beneficial bacteria treatments and their combinations**".** My role: assisted the PI, Dr. Samtani, in drafting the proposal, $10,000 (*Southern Region Small Fruit Consortium*)
2022-23	"Latent detection of anthracnose on strawberry crop using multispectral imaging". My role: assisted the PI, Dr. Samtani, in drafting the proposal, $10,000 (*Southern Region Small Fruit Consortium*)
2022	"Strawberry dose response to preplant and spring nitrogen rates in annual hill plasticulture production". My role: assisted the PI, Dr. Samtani, in drafting the proposal, $5,000 (*Southern Region Small Fruit Consortium*)

PUBLICATIONS

*Journal Publications (*Corresponding author)*

1. Aljawasim, B. D., Johnson, C., Manchester, M., & Samtani, J. B* (2024). Evaluating Soil Solarization and Mustard Seed Meal as Preplant Treatments for Weed Control in Annual Hill Plasticulture Strawberry Production. *Weed Technology*, 1-24.
2. Aljawasim, B. D., Samtani, J. B.*, & Rahman, M* (2023). New Insights in the Detection and Management of Anthracnose Diseases in Strawberries. *Plants*, 12(21), 3704.
3. Aljawasim, B.*, M Khaeim, H., & A Manshood, M. (2020). Assessment of arbuscular mycorrhizal fungi (Glomus spp.) as potential biocontrol agents against damping-off disease Rhizoctonia solani on cucumber. *Journal of Crop Protection*, 9(1), 141-147.
4. Aljawasim, B. D.*, Khaeim, H. M., Jeber, B. A., Al-khaikani, S. A. M., & Mohsen, A. A. (2020). Tillers patterns of bread wheat and grain yield productivity under abiotic stress. *Plant Archives*, 20(2), p2020.
5. Al-Jawasim, M. H.*, Aljawasim, B. D., & Jabar, A. (2019). Black walnut (Juglans nigra

L.) roots extract effects on seeds germination and growth of tomato (Solanum lycopersicum L.) and radish (Raphanus raphanistrum L.). *Plant Archives*. 587-592.

6. Aljawasim, B.*, & Vincelli, P. (2015). Evaluation of polymerase chain reaction (PCR)-based methods for rapid, accurate detection and monitoring of Verticillium dahliae in woody hosts by real-time PCR. *Plant Disease*, 99(6), 866-873.
7. Aljawasim, B. D. G.* (2014). Evaluation of PCR-Based Methods for Rapid, Accurate Detection and Monitoring of *Verticillium Dahliae* in Woody Hosts by Real-Time Polymerase Chain Reaction. *Master's degree thesis*. *University of Kentucky*.

Journal Papers in Preparation

1. Aljawasim, B., Chandel, A., Rahman, M., Gauthier N., Munir, M, Jjagwe, P.**,** and Samtani, J. B. Early Detection of Anthracnose Fruits Rot Diseases (AFR) Using Unmanned Aerial Vehicles (UAVs) Equipped with Multispectral Imaging System on Strawberry Production System. *Scientia horticulturae***.**
2. Aljawasim, B., Richardson, P., Mei, C., Chretien, R., and Lowman, S., and Samtani, J. B. Effects of Anaerobic Soil Disinfestation (ASD) and Beneficial Microbes on Fruit Rot Diseases, Weed Control, and Yield in Annual Hill Plasticulture (AHP) Production Systems. *HortScience*.

Conference Abstracts, Proceedings and Presentations (*Presenting author)

1. Aljawasim, B*. "Alternative Strategies to fumigation for soil disinfestation in agricultural systems", 2025 Virginia Urban Agriculture Summit (VUAS) on April 4-6, 2025, in Richmond, VA. USA (Oral presentation)
2. Aljawasim, B., Richardson, P., Pilot, G., and Samtani, J *. Biostimulants Did Not Influence Strawberry Yield But increased Fruit Sugar Content. *2024 ASHS Annual Conference, the annual meeting of the American Society for Horticultural Science (ASHS)*. September 23-27, 2024, Honolulu, Hawaii, USA. (Oral presentation)
3. Aljawasim, B., Richardson, P., Snead, S., AVennapusa, M., Melmaiee, K., and Samtani, J *. Assessment of Botrytis Fruit Rot Susceptibility in Selected Strawberry Cultivars under Field Conditions. *2024 ASHS Annual Conference, the annual meeting of the American Society for Horticultural Science (ASHS)*. September 23-27, 2024, Honolulu, Hawaii, USA. (Poster presentation)
4. Aljawasim, B.*, Chandel, A., Rahman, M., Richardson, P. & Samtani, J. Early Detection of Anthracnose Fruit Rot Disease Using Aerial Multispectral Imagery in a Strawberry Production System. *Plant Health 2024, the annual meeting of the American Phytopathological Society (APS)*. July 27-30, 2024, Memphis, Tennessee, USA. (Poster presentation)
5. Aljawasim, B.*, Richardson, P., Yeboah, G., Mei, C., Chretien, R., Lowman, S., & Samtani, J. "Anaerobic soil disinfestation and beneficial bacterial treatment effects on strawberry fruit rot diseases and yield in plasticulture production system". *Plant Health 2024, the annual meeting of the American Phytopathological Society (APS)*. July 27-30, 2024, Memphis, Tennessee, USA. (Poster presentation)
6. Aljawasim, B.*, Richardson, P., Yeboah, G., Mei, C., Chretien, R., Lowman, S., &

Samtani, J. “Anaerobic soil disinfestation and beneficial bacterial treatment effects on anthracnose fruit rot diseases and yield in strawberry plasticulture production system”. *ICPPB & Biocontrol 2024*. July 7-12, 2024. Blacksburg, Virginia, USA. (Poster presentation).

7. Samtani, J.*, Rahman, M., Smart, A., Aljawasim, B., & Richardson, P. (2023). Tracing latent Colletotrichum spp. infections on strawberry from runner tips to fruiting fields. In North American Strawberry Symposium. San Luis Obispo, California.
8. Smart, A., Shea, S., Richardson, P., Aljawasim, B., Samtani, J.*, and Rahman, M., 2023, August. Tracing Latent *Colletotrichum* spp. Infections on Strawberry from Runner Tips to Fruiting Fields. In *2023 ASHS Annual Conference*. ASHS.
9. Aljawasim, B.*. “Development of an assay for rapid detection and monitoring of *Verticillium dahliae* in woody plants by real-time polymerase chain reaction (PCR)”. *the American Phytopathological Society (APS), Southern Division meeting in Dallas, Texas*, February 2–3, 2014 (Oral presentation).

Newsletter Articles

1. Aljawasim, B., Richardson, P., Pilot, G., & Samtani, J., (2024). Minimal impact from biostimulant product use on strawberry crop yield and postharvest strawberry quality. www.smallfruits.org. Small Fruit News, Fall 2024 Edition, Vol. 24 No. 4.
2. Aljawasim, B., Richardson, P., & Samtani, J., (2024). Researchers See Promise in Multi-Spectral Imaging for Latent Detection of Anthracnose Disease on Strawberry Crop. Virginia Strawberry Association News. February 2024. Vol. 9, No. 1.
3. Aljawasim, B., Yeboah, G., Richardson, P., & Samtani, J., (2023). Evaluating Anaerobic Soil Disinfestation and Endophytic Bacterial Treatments to Suppress Diseases and Increase the Yield in the Annual Hill Plasticulture (AHP) Production System). www.smallfruits.org. Small Fruit News, Fall 2023 Edition, Vol. 23 No. 4.
4. Samtani, J., Richardson, P., Aljawasim, B., & Pilot, G. Biostimulants did not affect crop yield and post- harvest strawberry fruit quality. www.smallfruits.org.Small Fruit News, Fall 2023 Edition, Vol. 23 No. 4.
5. Aljawasim, B., Richardson, P., & Samtani, J. (2022). Bacillus velezensis IALR619 Shows Potential for Increasing Strawberry Yield) at Virginia strawberry association news. Summer 2022 Strawberry Pre-Plant Meeting. Fall 2023 Edition, Vol. 23 No. 4.

News Media

1. Aljawasim, B., Richardson, P., & Samtani, J., (2024). Cutting chemical fumigation. Fruit growers news. https://fruitgrowersnews.com/article/strawberries-cutting-chemical-fumigation/.

RESEARCH POSITIONS

2021-2025 Graduate Research assistant (GRA), Plant Pathology, Physiology, and Weed Sciences (PPWS), School of Plant and Environmental Sciences (SPES), Virginia Tech University, USA.

2016-2020 Research Assistant, Dept. of Plant Protection, College of Agriculture College, Al-Muthanna University, Muthanna Province, Iraq. My role: Participating in team or project meetings; maintaining laboratory equipment and conducting inventory checks; analyzing data; Preparing progress reports; Supervising students and research; teaching the laboratory section.

2014-2016 Research Assistant, Dept. of Plant Production, College of Agriculture, University of Al- Qadisiya, Iraq. My role: Participating in team or project meetings; maintaining laboratory equipment and conducting inventory checks; Supervising students and research.

2011-2014 Graduate Student, Dept. of Plant Pathology, College of Agriculture, University of Kentucky, USA.

2008-2011 Research Assistant, Dept. of Plant Production, College of Agriculture, University of Al-Qadisiya, Iraq. My role: maintaining laboratory equipment and conducting inventory checks; Supervising students and research; teaching laboratory sections.

TEACHING EXPERIENCE

Teaching Assistant

2021-2022 PPWS 4104: Plant Pathology. My role: giving lectures; preparing laboratory materials such as slides and samples; organizing group work; leading hands-on learning; creating assignments; grading exams.

Undergraduate Teaching

2016-2020
PP 1010: Principles of Plant Protection (my role: instructor)
PP 3010: Plant Diseases (my role: instructor)
PP 3420: Crop Diseases (my role: instructor)
PP 1010: English Language (my role: instructor)

PRESENTATIONS

2025 "Alternative Strategies to fumigation for soil disinfestation in agricultural systems", 2025 Virginia Urban Agriculture Summit (VUAS) on April 4-6, 2025, in Richmond, VA. USA.

2024 "Early Detection of Anthracnose Fruits Rot Diseases (AFR) Using Small Unmanned Aerial Systems (UASs) Equipped with Multispectral Imaging Sensor on Strawberry". *Virginia Tech University*, *Workshop Virginia Tech Tidewater AREC Drone School 2024*.

2014 "Development of an assay for rapid detection and monitoring of *Verticillium dahliae* in woody plants by real-time polymerase chain

reaction (PCR)". *the American Phytopathological Society (APS), Southern Division meeting in Dallas, Texas*.

EXTENSION TALKS

2024	Presented on topics like precision agriculture for strawberry production and disease management at the Mid-Atlantic Strawberry School & Trade Show at Tidewater AREC, Suffolk, VA.
2024	SPES grad student tour, PPWS 6004 at Hampton Roads AREC 1444 Diamond Springs Road, Virginia Beach, VA 23455, Virginia Tech University.
2024	Strawberry field day at Hampton Roads AREC 1444 Diamond Springs Road, Virginia Beach, VA 23455, Virginia Tech University.
2024	Precision Agriculture for strawberry production at 2024 Mid-Atlantic Strawberry School & Trade Show.
2022	Virginia Master Naturalist State Conference tours of the Hampton Roads Agricultural Research & Extension Center (AREC), Virginia Tech University.

UNIVERSITY SERVICE

2023- Present	Representative officer of School of Plant and Environmental Sciences (SPES) at Hampton Roads AREC.
2016 –Present	Student Final Project advisor, Dept. of Plant Protection, College of Agriculture College, Al-Muthanna University, Muthanna Province, Iraq.
2016 – Present	Student Mentor, Dept. of Plant Protection, College of Agriculture College, Al-Muthanna University, Muthanna Province, Iraq.

PROFESSIONAL MEMBERSHIPS

2020-Present	Scientific Journal Reviewer, Current Agriculture Research Journal.
2016-Present	Member of the Scientific Committee, Dept. of Plant Protection, College of Agriculture College, Al-Muthanna University, Muthanna Province, Iraq
2012-Present	Member of the American Phytopathological Society (APS)
2011-Present	Mesopotamia's Member Scholars in Iraq, participating in the establishment of Mesopotamia Scholars in Iraq.

LANGUAGES

Arabic – Native speaker

English – Proficient