



Daffodil International University

Faculty of Health and Life Science

Department of Agricultural Science

Section Guidebook

1. Introduction

1.1. Welcome Message

It is with great pleasure that I welcome you to the Agricultural Science Department Guidebook. This guidebook serves as a valuable resource, providing you with essential information about our department, its programs, faculty, and the opportunities that await you.

As you embark on your academic journey, I encourage you to explore the rich and diverse field of agricultural science. Our department is committed to providing you with a comprehensive education that equips you with the knowledge, skills, and practical experience necessary to contribute meaningfully to the agricultural sector.

I am confident that the Agricultural Science Department will offer you a stimulating and rewarding learning environment. Our dedicated faculty members are passionate about their subjects and are committed to your success. They will guide you through the intricacies of agricultural science, inspire your curiosity, and foster your intellectual growth.

I wish you all the best in your academic pursuits. May this guidebook serve as a helpful companion as you navigate your path to success.

1.2. Department Overview

An overview of the Agricultural Science Department, including its mission, vision, and values. Explain the department's role in advancing agricultural knowledge and practices.

Department of Agricultural Science

The Department of Agricultural Science at Daffodil International University stands as a cornerstone of agricultural education and research in Bangladesh. Established with a vision to foster sustainable

agricultural practices and produce skilled professionals to address the nation's agricultural challenges, the department has been instrumental in driving innovation and development in the sector.

Department Head: Dr. M. A. Rahim, Professor

Faculty of: Health and Life Science

Vision: To be a leading department in agricultural education and research, contributing significantly to the sustainable development of agriculture in Bangladesh and beyond.

Mission: To provide quality education and training in agricultural science, promote research and innovation, and foster partnerships to address the challenges and opportunities in the agricultural sector.

Department Objectives:

- To offer comprehensive undergraduate and postgraduate programs in agricultural science, equipping students with the necessary knowledge, skills, and practical experience to excel in their careers.
- To conduct research on a wide range of agricultural topics, contributing to the advancement of agricultural knowledge and practices.
- To foster collaboration with industry, government agencies, and research institutions to address real-world agricultural problems and promote sustainable development.
- To provide consultancy services and extension activities to support the agricultural community and contribute to rural development.
- To promote sustainable agriculture and environmental stewardship through education, research, and outreach activities.

Department Programs:

- **Bachelor of Agricultural Science (B.Sc. Ag.)**

Department Facilities:

SL	Name	Initial	Employee ID	Faculty Type	Designation
1	Dr. M. A. Rahim	DMAR	710001934	Full-Time Faculty	Professor & Head, AGS
2	Dr. ATM Majharul Mannan	DMM	710003291	Full-Time Faculty	Assistant Professor
3	Uswatun Hasana Hashi	UHH	710003293	Full-Time Faculty	Lecturer (Senior Scale)
4	Mr. Md. Shoaib Arifin	MSA	710003294	Full-Time Faculty	Lecturer

Staff Information:

Name	Position
Takvirul Karim	Assistant Coordination Officer
Most. Iffat Jahan Monju	Research Fellow
Sobuj Khan	Lab Attendant
Bodiul Alam	Field Assistant
Abdul Hamid	Field Assistant
MD Oliullah	Office Staff

Department Achievements:

- Prof. Dr. M. A. Rahim was awarded special honor by the Ministry of Agriculture
- Uswatun Hasana Hashi was awarded Ph.D. fellowship from the Cotton Development Board.
- Registered Seed dealer certificate.

Department Outlook:

2. Research Activities and Journal Publications

2.1 Research Activities

Sl. No.	Research Title	Research Location
1	Effect of different levels of potassium & boron nutrients on growth and development of cauliflower.	Field Lab-1
2	Effects of different levels of Mustard Oil Cake (MOC) & Di Ammonium Phosphate (DAP) on growth and development of Chinese Cabbage.	Field Lab-1
3	Effects of different levels MOC & DAP on growth and development of Cole crops broccoli, cabbage, and cauliflower.	Field Lab-1
4	Effects of different levels of MOC, CD & DAP on the growth and development of Brinjal.	Field Lab-1
5	Feasibility and adaptive trial of different exotic cucumber accessions in Bangladesh during the winter season.	Field Lab-1

6	Morphological and molecular characterization of jackfruits (<i>Artocarpus heterophyllus</i>)	Field Lab-1
7	Morphological and molecular characterization of Lotkon (<i>Baccaurea motleyana</i>)	Field Lab-1
8	Varietal development of Papaya through conventional breeding	Field Lab-1
9	Revolutionizing Organic Papaya Production with AI and IoT	Field Lab-1

2.2 Journal Publications

▪ Prof. Dr. M. A. Rahim

- a) Al Munsur MA, Begum S, Rahman MH, Rahim MA. Screening and morphological characterization of taro (*Colocasia* sp.). Indian Journal of Horticulture. 2024 Jun 30;81(02):123-8. DOI: <https://doi.org/10.58993/ijh/2024.81.2.1>
- b) Rahman Z, Robbani M, Rahim MA, Hasan MF, Mithu MH. Optimizing Cabbage Yield through integrated biochar and cow urine applications: Cabbage Yield through integrated biochar and cow urine. Bangladesh Journal of Agriculture. 2024 Jul 18;49(1):128-35. DOI: <https://doi.org/10.3329/bjagri.v49i1.74072>
- c) Khan MA, Rahim MA, Robbani M, Hasan F, Molla MR, Akter S, Ahsan AF, Alam Z. Genotypic selection and trait variation in sweet orange (*Citrus sinensis* L. Osbeck) dataset of Bangladesh. Data in Brief. 2024 Jun 1;54:110333. DOI: <https://doi.org/10.1016/j.dib.2024.110333>

▪ ATM Mazharul Mannan

- a) Majharul Mannan, A.T.M., Rahim, M.A., Simon, P.W., Lalor-King, E. and Senalik, D. (2024). Screening of carrot wild relatives in warm, dry and saline field conditions with respect to root and seed production. Acta Hort. 1393, 287-296. DOI: 10.17660/ActaHortic.2024.1393.37 <https://doi.org/10.17660/ActaHortic.2024.1393.37>

▪ Uswatun Hasana Hashi

- a) Karim MA, Mannan MA, Al Mamun MA, Hoque MM, Hossain MF, Saifullah M, Hashi UH. SOYBEAN GERMPLASM SHOWS VARIATION IN FARMERS PARTICIPATORY TRIAL IN THE COASTAL REGION OF BANGLADESH. *Ecology Journal*.:219. DOI: <https://doi.org/10.59619/ej.5.2.16>

▪ **Md. Shoaib Arifin**

- a) Rob MM, Pappu MM, Arifin MS, Era TN, Akhi MZ, Bhattacharjya DK, Kayshar MS, Jubayer MF. Application and evaluation of plant-based edible active coatings to enhance the shelf-life and quality attributes of Jara lebu (*Citrus medica*). *Discover Food*. 2024 Dec;4(1):1-4. DOI: <https://doi.org/10.1007/s44187-024-00094-8>
- b) Jubayer MF, Malek MA, Iqram T, Begum M, Kayshar MS, Arifin MS, Limon MT, Das PC, Mazumder MA, Akter M, Uddin10 MJ. Therapeutic potential of selective medicinal plants and their phytoconstituents in respiratory diseases: A review with an emphasis on COVID-19. DOI: <https://doi.org/10.5455/jabet.2024.d18>
- c) Jubayer F, Kayshar S, Arifin S, Parven A, Khan SI, Meftaul IM. Nutritional health of the Rohingya refugees in Bangladesh: Conceptualizing a multilevel action framework focusing the COVID-19. *Nutrition and Health*. 2024 Apr;30(1):21-5. DOI: <https://doi.org/10.1177/02601060231169372>

2.3 Funding Proposal Submissions

Title	Name of Grants	Submitted by	Remarks
Varietal development of Papaya (<i>Carica papaya L.</i>) through conventional breeding methods	Special Research Grant, MOST	ATM Mazharul Mannan (PI) & Uswatun Hasana Hashi (Co PI)	Submitted
Morphological and molecular characterization of jackfruits (<i>Artocarpus heterophyllus</i>)	R & D Project, MOST	ATM Mazharul Mannan	Submitted
Krishi Bondhu: is developing a Deep Learning approach for	EDGE	Uswatun Hasana Hashi	Primarily selected

leaf disease detection and a sensor-based solution for crop recommendations system.			
Reveiling Drought stress Tolerance Mechanisms in Proso Millet (<i>Panicum miliaceum</i>) by Application of Organic Matter	R & D Project, MOST	Uswatun Hasana Hashi	Submitted
Investigating Heavy Metal Contamination and Associated Human Health Hazard in Spices Sold via E-Marketplaces in Bangladesh	R & D Project, MOST	Md. Shoaib Arifin	Submitted

3 Workshops, Seminars, Conferences, Training, and other activities:

3.1 Attended by faculties and students

Date: January 16, 2024

Program on: Inaugural Ceremony of the “**Certification Program on Child Health & Nutrition**” (CPCN) under RMP Online Certification Course Project, jointly organized by Nestle Bangladesh PLC and the Faculty of Health and Life Sciences (FHLS), Daffodil International University (DIU).



Date: January 28, 2024

On January 28, 2024, faculty and students from the Department of Agricultural Science at Daffodil International University (DIU) actively participated in a **day-long career boot camp**. The event, focused on exploring diverse career paths, provided valuable insights and opportunities for professional development.



Date: January 29, 2024

The Department of Agricultural Science at [University Name] organized a fieldwork practical class under the guidance of Dr. M. A. Rahim. Students gained hands-on experience by conducting practical exercises in an open field environment.



Date: January 31, 2024

Program on: the Knowledge-Sharing Session on Significance of Safe Food Packaging by Siegwerk Bangladesh, from 10 AM to 11AM at Professor Dr. Aminul Islam Seminar Hall of Knowledge Tower (Lift-6), DIU, Daffodil Smart City, Birulia, Savar, Dhaka 1216, Bangladesh.



Date: February 4, 2024

Daffodil International University (DIU) hosted a comprehensive training program on **Generative AI** on February 4, 2024. The event aimed to provide participants with a deep understanding of this cutting-edge technology, its applications, and its potential impact. Experts in the field led interactive sessions, covering topics such as AI models, algorithms, and real-world use cases.



Date: February 5, 2024

The Department of Agricultural Science at Daffodil International University (DIU) actively participated in the National Library Day and Best Library User Award Program, organized by the DIU Library. The event celebrated the significance of libraries in education and research and recognized outstanding library users.



Date: February 6, 2024

Daffodil International University (DIU) conducted a training session to familiarize faculty members from the Faculty of Humanities and Life Sciences (FHLS) with **GoEdu and IOU platforms**. The workshop aimed to enhance faculty capabilities in utilizing these tools for effective teaching and administrative tasks.



Date: February 9, 2024

Program on: Most Anticipated Event of the year [Ai connect Bangladesh Summit 2024 powered by Microsoft](#) at Daffodil Plaza Dhanmondi Sobhanbag, Dhaka



Date: 04 March 2024

A seminar focusing on **Data Collection Methodologies for Agricultural Research** was conducted in collaboration with the Faculty of Science and Information Technology (FSIT). The event aimed to equip participants with the knowledge and skills necessary for effective data gathering to support agricultural studies.



Date: 10 March 2024

Faculty members from the Department of Agricultural Science were present at the 11th Convocation ceremony of Daffodil International University. They joined the university in celebrating the academic achievements of the graduating class.



Date: 16 March 2024

The Department of Agricultural Science at joined a collaborative meeting with a team of four Japanese researchers led by Professor Khabir from Jahangirnagar University (JU). The meeting focused on exploring potential research partnerships and knowledge exchange in the field of agriculture.



Date: 25 March 2024

Faculty and students from the Department of Agricultural Science participated in a discussion meeting held at Daffodil International University to commemorate Independence Day 2024. The event provided a platform to reflect on the nation's history, achievements, and future aspirations.



Date: 7 May 2024

The Department of Agricultural Science at Daffodil International University actively participated in the university's book fair. Faculty and students from the department visited the event to explore a wide range of books, journals, and academic resources.



Date: 14 May 2024

Faculty from the Department of Agricultural Science at Daffodil International University attended a seminar focused on the semester exchange program for students from the Nutrition & Food Engineering (NFE). The event provided valuable insights into the exchange program, fostering academic collaborations and cultural exchange opportunities.



Date: 29 June 2024

Faculty members from the Department of Agricultural Science at Daffodil International University participated in a transformative masterclass titled "Ignite Innovation and Level Up Your Teaching" in collaboration with Purdue University. This intensive program focused on equipping educators with cutting-edge pedagogical strategies and innovative teaching methods to elevate the overall learning experience.



3.2 Arranged by Department of Agricultural Science

Date: 1 February 2024

Program on: Inaugural ceremony of the SAARC Agriculture Center Corner at DIU Library. The Honorable Vice Chancellor Prof. Dr. Md. Lutfur Rahman, has consented to be present as the Chief Guest. Honorable Pro-Vice Chancellor, Prof. Dr. S M Mahbub Ul Haque Majumder, and Dr. Md. Harun Ur Rashid, Honorable Director, SAC as the special Guests.



Date: 12 February 2024

Under the guidance of Professor Dr. M.A. Rahim, a comprehensive program was undertaken to revitalize the litchi garden at Agricultural Field Lab 2. The initiative encompassed both practical training and implementation of improved orchard management practices. Key focus areas included optimizing field hygiene through efficient waste management, enhancing tree health and productivity via proper pruning techniques, and preventing disease spread through sanitation pruning.



Date: 13 February 2024

The Department of Agricultural Sciences hosted a commemorative event for Krishibid Dibosh in 2024. The program featured a spirited rally led by the Pro-Vice Chancellor, who emphasized the sector's importance. Professor Dr. M.A. Rahim delivered a keynote address highlighting agriculture's contribution to the nation's progress.



Date: 13 February 2024

Department of Agricultural Sciences, in collaboration with the Quantum Foundation, organized a seminar aimed at fostering community engagement in blood donation. The event focused on highlighting the life-saving impact of blood donation and encouraged participants to become regular donors.



Date: 28 February 2024

Program on: 550 plants planting at Gazaria Agro Project

Students of the Department of Agricultural Science, DIU, planting 550 plants of different varieties of mango (BAU (23,24), Gurmoti, Kathimon, miajaki), yellow malta, Lemon, Ball Sundori, strawberry, agor at Gazaria Agro Project.



Date: 02 March 2024

Program on: Colored potato harvesting

Harvesting of Antioxidants rich colorful potatoes. Students are delighted to learn and hands on training on harvesting and post-harvest processing of potatoes at Agricultural field lab-1 (Malta Garden). This is first time in DIU and the potatoes really good for the health for all classes and ages persons even diabetic patients.



Date: 13th March, 2024

The Tree Plantation Initiative at the Department of Agricultural Science, DIU, was inaugurated on May 12th, 2024. This initiative, which includes the creation of the Lychee Garden known as Agriculture Laboratory-2, marks a significant step toward environmental sustainability and the promotion of research. Led by Dr. Nasar U. Ahmed and chaired by Dr. Mohammad Abdul Rahim, the event was graced by

notable guests, including Professor Mahfuzul Bari, the Vice-Chancellor of CIVASU. Faculty, staff, and students participated by planting trees in their names.



Date: 18th May, 2024

We are collaborating with the Bangladesh Agricultural Research Institute (BARI) to host a 2-day Agricultural Machinery Fair and Seminar on May 18th and 19th, 2024, as part of their "Making Crop Production System More Profitable (FMD)" project. This event aims to showcase innovative agricultural machinery, spark interest in agrarian technology among students and faculty, and promote efficient machinery use in Bangladesh.



Date: 13th March, 2024

Daffodil International University marked World Environment Day with a focus on environmental conservation and restoration. The university organized a series of activities, including a rally, discussions, tree planting, and a cleanup campaign, to raise awareness about the critical issues of land restoration, desertification, and drought resilience. The Department of Agricultural Science, Department of Environmental Science and Disaster Management, and the Office of the Future DIU

collaborated on the event. Participants emphasized the importance of preserving the environment for future generations and encouraged sustainable practices.



3.3 Industry-Academia Collaboration

Date: 13th March, 2024

Industry-Academia Collaboration with Mushroom Development Institute, Sobhanbag, Savar, Dhaka.

On March 13th, 2024, an industry-academia collaboration was established with the Mushroom Development Institute in Sobhanbag, Savar, Dhaka. The primary academic purpose of this visit was to provide students from the Department of Agricultural Science at Daffodil International University with practical insights into mushroom cultivation techniques. During the visit, students were exposed to various aspects of mushroom farming, including substrate preparation, spawn production, environmental control, and harvesting methods. This hands-on experience aimed to bridge the gap between theoretical knowledge and practical application, enabling students to understand the intricacies of mushroom cultivation directly from industry experts. The collaboration underscored the importance of such partnerships in enhancing educational outcomes and preparing students for real-world agricultural challenges.



Date: 15th May, 2024

Industry-Academia Collaboration with Krishibid Seed Ltd, Kazi para, Mirpur, Dhaka.

On May 15th, 2024, an industry-academia collaboration was established with Krishibid Seed Ltd, located in Kazi Para, Mirpur, Dhaka. The primary academic purpose of the visit was to provide students from the Department of Agricultural Science at Daffodil International University with practical insights into the cultivation techniques of seed production. During the visit, students had the opportunity to observe and engage in various stages of the seed production process, including selection, breeding, harvesting, and quality control. This hands-on experience was designed to bridge the gap between theoretical knowledge and practical application, allowing students to apply what they have learned in the classroom to real-world agricultural practices. The collaboration not only enhanced the students' understanding of seed production but also highlighted the importance of quality control and innovative techniques in ensuring high-yield and disease-resistant crops. This enriching experience emphasized the critical role of industry-academia partnerships in fostering educational growth and preparing students for successful careers in agriculture.



3.4 Partnerships and collaborations:

- MOU with Universiti Putra Malaysia (UPM) is in progress.
- MOU with Bangladesh Agricultural Research Institute (BARI) is in progress.
- MOU with Supreme Seed Company Ltd is in progress.