

様式 A-1  
(FY2025)

2025 年 10 月 10 日

## サイエンス・ダイアログ 実施報告書

1. 学校名: 長崎県立長崎南高等学校
2. 講師氏名: Jahidul HASSAN (ジャヒドル・ハッサン)
3. 講義補助者氏名: 陳 亮奇 (CHEN Liang-Chi)
4. 実施日時: 2025 年 10 月 1 日(水) 14:30 ~ 16:40
5. 参加生徒: 2 年生 34 人 備考:理系SSHクラス(学年6クラスの中の1クラス)
6. 講義題目: Parthenocarpy in Pointed Gourd (カラスウリの単為結果)
7. 講義概要: 高生産性を実現する世界初の自動的単為結果性ポトルの開発
8. 講義形式:  
☒対面 ・ ☐オンライン (どちらか選択ください。)
  - 1) 講義時間 120 分 質疑応答時間 10 分
  - 2) 講義方法  
パワーポイントスライドによる講義、果物を使った実験
  - 3) 事前学習  
☒有 ・ ☐ 無  
使用教材: 講師が事前に送った講義資料(パワーポイントスライドを印刷したもの、英語)
9. その他特筆すべき事項:  
◦ 生物実験室で実施

Form B-2  
(FY2025)  
Must be typed

Date (日付)  
09/10/2025 (Date/Month/Year: 日/月/年)

**Activity Report -Science Dialogue Program-**  
(サイエンス・ダイアログ 実施報告書)

- Fellow's name (講師氏名): Dr. Jahidul HASSAN (ID No. P24398)
- Name and title of the lecture assistant (講義補助者の職・氏名)  
Chen Liang-Chi, MS Student, Faculty of Agriculture, Kyushu University
- Participating school (学校名): Nagasaki Minami Senior High School
- Date (実施日時): 01/10/2025 (Date/Month/Year: 日/月/年)
- Lecture title (講義題目):  
Parthenocarpy in Pointed gourd
- Lecture format (講義形式):  
◆ ☒ Onsite ・ ☐ Online (Please choose one.)(対面 ・ オンライン)((どちらか選択ください。))  
◆ Lecture time (講義時間) 90 min (分), Q&A time (質疑応答時間) 20 min (分)  
◆ Lecture style(ex.: used projector, conducted experiments)  
(講義方法 (例: プロジェクター使用による講義、実験・実習の有無など))  
Used projector, powerpoint slides, blackboards, conducted experiments using parthenocarpic and non-parthenocarpic grapes, tomato; determine brix (%) by refractometer, size by slide calipers.
- Lecture summary (講義概要): Please summarize your lecture within 200-500 words.

**Science Dialogue-2025**  
**Title: "Parthenocarpy in Pointed gourd"**

**Jahidul Hassan, PhD<sup>1</sup>,**  
<sup>1</sup>JSPS Postdoctoral Research Fellow,  
Laboratory of Horticultural Science, Kyushu University, Fukuoka, Japan.

**Summary**

On October 1, 2025, I had the privilege of participating in the Science Dialogue-2025 program at Nagasaki Minami High School, Japan, an initiative supported by the Japan Society for the Promotion of Science (JSPS). This program aims to foster scientific curiosity and global awareness among Japanese high school students by facilitating interactions with international researchers.

My presentation focused on the topic "Parthenocarpy in Pointed Gourd (*Trichosanthes dioica*)," a

seedless fruit development process with significant implications for agriculture and food security. The session commenced with an ice-breaking introduction to encourage student engagement and reduce hesitation. I shared my academic journey as an agricultural and horticultural scientist from Bangladesh, highlighting the cultural and agronomic richness of my country and the societal relevance of agricultural research. The core of the presentation addressed the scientific principles and practical applications of parthenocarpy. I explained how seedless fruit production enhances consumer appeal, stabilizes crop yields, and reduces reliance on pollinators. My research integrates plant physiology, biotechnology, and breeding techniques—including hormone treatments and polyploidy induction—to develop seedless varieties of pointed gourd. These innovations aim to support sustainable agriculture, improve farmer livelihoods, and contribute to global food systems.

To reinforce theoretical concepts, a practical demonstration was conducted using parthenocarpic and non-parthenocarpic fruits (e.g., grapes and tomatoes). Students examined morphological differences and discussed consumer preferences, fostering experiential learning and critical thinking. The interactive nature of the session stimulated student interest, leading to an enthusiastic question-and-answer segment focused on the mechanisms and benefits of parthenocarpy.

A particularly rewarding outcome was the post-session engagement with three students who expressed a strong desire to pursue agricultural research, specifically in parthenocarpy. Their motivation and scientific curiosity underscored the program's impact in inspiring future researchers.

I extend my sincere gratitude to JSPS and its entire team, Nagasaki Minami High School, Kyushu University, Professor Dr. Yukio Ozaki, Chen Liang-Chi, and the participating students for their warm hospitality and collaborative spirit. The experience was a milestone in my academic career, exemplifying how science communication can bridge cultures and empower the next generation of scientists.

◆Other noteworthy information (その他特筆すべき事項):

The students demonstrated a high level of enthusiasm and engagement with the topic of parthenocarpy, particularly in relation to its associated aspects of pollination, fertilization, breeding and taste variations. They expressed interest in attending an additional lecture focused on the involvement of science in the fruit formation, encompassing its growth, developmental stages, and ripening processes (if possible). Moreover, they exhibited a constructive and inquisitive attitude toward scientific research and technological innovation across diverse aspects of horticultural science.

- Impressions and comments from the lecture assistant (講義補助者の方から、本プログラムに対する意見・感想等がありましたら、お願いいたします。):

It was a great opportunity and honor to participate in this event as a supporter. From preparation through the post-lecture phase, I had the chance to use my language ability and cultural comprehension to support and advise the lecturer on the materials and class flow, and to ensure all required materials were prepared on time.

This was also my first time planning a trip like a business trip, which presented not just challenges but also opportunities to learn how to plan and execute effectively and efficiently.


I thoroughly enjoyed the class and the school, gaining a direct, in-person understanding of the Japanese high-school curriculum. The students showed great enthusiasm for scientific research and were proactive in asking questions and requesting further explanations when needed. I also had the chance to participate by explaining a part of the lecturer's content in Japanese, which was a personal challenge, as it required translating scientific terms that we typically express in English.

Finally, I would like to sincerely thank the JSPS and the lecturer, Dr. Hassan, for providing me with this valuable opportunity to be involved.

How to eat pointed gourd:

- Fried (tempura)
- Curry with shrimp
- Curry with lentil (pulse)
- Pointed gourd smashed
- Pickles

Preparation steps:



Pointed gourd (whole), Pointed gourd (sliced), Fried pointed gourd, Pointed gourd smashed, Pointed gourd (pickled), Pointed gourd (pickled)

