

様式 A-1
(FY2024)

2025 年 1 月 21 日

サイエンス・ダイアログ 実施報告書

1. 学校名・実施責任者氏名: 愛知県立刈谷高等学校
2. 講師氏名: Dr. Sarin NEANG
3. 講義補助者氏名: _____
4. 実施日時: 2024 年 1 月 21 日 (火) 16:00 ~ 18:00
5. 参加生徒: 1 年生 0 人、 2 年生 20 人、 3 年生 0 人 (合計 20 人)
備考: (例: 理数科の生徒) SS 部の生徒、探究系生徒、その他
6. 講義題目: イネの塩排出能と耐塩性強化について
7. 講義概要: 講師の自己紹介、イネの NaCl 排出の調査についてとその仕組み、耐塩について
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 90 分 質疑応答時間 20~30 分
 - 2) 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)
プロジェクター使用による講義
 - 3) 事前学習
☒ ・ 無 (どちらかに○をしてください。)
使用教材 事前に講義者にいただいた関連資料と要約文を配布して単語を事前に学習させた
9. その他特筆すべき事項:
特記事項なし

Form B-2
(FY2024)
Must be typed

Date (日付)
29/01/2025 (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): NEANG Sarin (ID No. P23404)

- Name and title of the lecture assistant (講義補助者の職・氏名)

- Participating school (学校名): Aichi Prefectural Kariya High School

- Date (実施日時): 21/01/2025 (Date/Month/Year: 日/月/年)

- Lecture title (講義題目):

Mechanism of salt removal ability in rice leaf sheath to enhance salt tolerance in rice

- 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) 60 min (分), Q&A time (質疑応答時間) 30 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

- Lecture summary (講義概要): Please summarize your lecture within 200-500 words.

The lecture was conducted with three sections, and each session was followed by Q&A. The first section was about my home country and myself. I began the first section with my hometown, Cambodia, by introducing general information, national symbols, attractive spots, capital city, and major agricultural products of Cambodia. Then, I continued with my self-introduction by talking about my family, educational background, work experiences, study abroad experiences, and the reason I chose to study agriculture and do research on rice.

For the second section, I talked about the background of my research on saline soil, salt stress, rice and salt removal ability in leaf sheath of rice. In this section, I introduced the definition of salt stress and areas affected by salt all around the world including Cambodia and Japan. I also showed the negative effects of salt stress on plants and the main causes of saline soil causing salt stress on plants. After that, I talked about the importance of rice as it is necessary to increase rice production to meet the needs of the world's growing population. At the end of the second section, I introduced an important salt-tolerant mechanism in rice called "salt removal ability in leaf sheath of rice". The removal of salt ions such as sodium (Na⁺) and Chloride (Cl⁻) in the leaf

sheath level plays an important role in reducing these toxic ions in the leaf blade of rice. That is because salt sensitivity in rice plants is associated with the accumulated amount of Na^+ and Cl^- to the toxic level in shoots and, more significantly, in the rice leaf blade which is the major photosynthetic tissue. In addition, high Na^+ and Cl^- concentrations in the leaf blade cause ion toxicity which decreases photosynthetic activity and grain yield of rice. Naturally, rice leaf consists of leaf sheath and leaf blade, and the leaf blade is the most active photosynthetic tissue, which needs to be protected from salt stress.

The last section of the lecture was about my research on salt removal ability in leaf sheath of rice. I first introduced my research questions and objective. Then, I continued with the materials and methods and especially explained how to measure Na^+ and Cl^- in parts and specific tissues of rice leaves and the leaf sheath and how evaluate salt removal ability in the rice leaf sheath. Finally, I talked about results, discussion and impacts of my research.

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

- 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。）: