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（For JSPS Fellow）

Form B-2
(FY2018)

Date（日付）
20.12.2018
（Date/Month/Year：日/月/年）

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

- Fellow's name（講師氏名）: Petko Vasilev Mladenov（ID No.P17747）

- Participating school（学校名）Takezono High School
- Date （実施日時）:4.12.2018（Date/Month/Year:日/月/年）

- Lecture title（講演題目）:Genome editing of plants

- Name and title of your companying person（講義補助者 職・氏名）
Dr. Ryozo Imai

- Lecture format（講演形式）:
  ◆Lecture time（講演時間）60 min（分）, Q&A time（質疑応答時間）60 min（分）
  ◆Lecture style（ex.: used projector, conducted experiments）
  （講演方法（例：プロジェクター使用による講演、実験・実習の有無など））
  Used projector for the lecture

- Lecture summary（講演概要）: Please summary your lecture 200-500 words.

Wheat　is the second most-produced cereal after maize. Globally, wheat is the leading source of vegetable protein in human food and grown on more than 218,000,000 hectares larger than for any other crop.　One of the reasons that prevent stable production of wheat is environmental stress factors such as drought, heat and freezing.Conventional breeding has been successfully achieved to develop varieties with certain levels of winter stress tolerance. However, the level of tolerance of these varieties are still not to withstand harsh winter conditions.To develop wheat varieties that are super-tolerant against winter stresses, a new approach is necessary.Genome editing is an emerging genome-modifying technology that is expected to be expanded to a wide range of living organisms from microorganisms to mammals. Genome editing enables modifying genome sequence, especially introducing mutations, at desired sites. In contrast to genetic engineering, genome editing does not require maintenance of transgenes. This could make it very suitable to apply genome editing to crop breeding, where acceptance of consumers is very important. Recently, the genome editing based on CRISPR (clustered regularly interspaced short palindromic repeats)/associated nuclease Cas9 system is widely used in plants to introduce targeted mutations for studying gene function and for crop improvement. The goal of our project is to improve the freezing tolerance in wheat, using CRISPR/Cas9 system.

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- Overall advice or comments to future participants in the program（今後の講師へのアドバイス）:
Provide vocabulary with terms before lecture, use simple English if possible and speak slowly

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

- Impressions and comments from the accompanying person（講義補助者の方から、本事業に対する意見・感想等がありましたら、お願いいたします。）