

【問題用紙】

令和8年度 愛媛大学大学院農学研究科入学者選抜学力検査

(食料生産学専攻 農業生産学コース)

外国語

第 1 頁 (6 頁の内)

問1～3に答えよ。解答は解答用紙に記入すること。

問1. 下記の英文を読んで、(1)～(4)に答えよ。

著作権の関係上公表しません

(Shen et al., 2021 ISME 15 (8):2427–2439 を一部改変)

注：ozone-depleting, オゾン層を破壊する；persistence, 持続性；anthropogenic, 人為起源の；nitrification, 硝化；archaea, 古細菌；mesofauna, 中型土壌動物；fungivorous, 菌食性の

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第 2 頁 (6 頁の内)

- (1) 下線部①を和訳せよ。
- (2) 下線部②の「fungivorous mites」の役割について日本語で説明せよ。
- (3) 下線部③の「the application of coconut husks」が「fungivorous mites」に及ぼした影響について日本語で説明せよ。
- (4) 下線部④を和訳せよ。

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第 3 頁 (6 頁の内)

問2. 下記の英文を読んで、(1) ~ (5) に答えよ。

著作権の関係上公表しません

(Clare Cooper Marcus and Naomi Sachs. Therapeutic Landscapes. から抜粋・一部改変)

注：Multisensory, 多感覚的な；healing garden, ヒーリングガーデン；aesthetic, 審美的な；therapeutic, 療法的；provoking, 喚起する；facility, 施設；Fine-textured, 繊細な

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第 4 頁 (6 頁の内)

(1) 下線部①を和訳せよ。

(2) 下線部②を和訳せよ。

(3) 本文中の“A”、“B”、“C”に入る最も適切な単語を下記の語句群から選べ。なお、大文字・小文字の区別は問わない。

語句群 vision, hearing, smell, touch, taste

(4) 下線部③を和訳せよ。

(5) 下線部④を和訳せよ。

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第 5 頁 (6 頁の内)

問 3. 下記の英文を読んで、(1) ~ (2) に答えよ。

Food, genetically modified

What are genetically modified (GM) organisms and GM foods?

Genetically modified organisms (GMOs) can be defined as organisms (i.e. plants, animals or microorganisms) in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination. The technology is often called “modern biotechnology” or “gene technology”, sometimes also “recombinant DNA technology” or “genetic engineering”. It allows selected individual genes to be transferred from one organism into another, also between nonrelated species. Foods produced from or using GM organisms are often referred to as GM foods.

Why are GM foods produced?

GM foods are developed – and marketed – because there is some perceived advantage either to the producer or consumer of these foods. This is meant to translate into a product with a lower price, greater benefit (in terms of durability or nutritional value) or both. Initially GM seed developers wanted their products to be accepted by producers and have concentrated on innovations that bring direct benefit to farmers (and the food industry generally).

One of the objectives for developing plants based on GM organisms is to improve crop protection. The GM crops currently on the market are mainly aimed at an increased level of crop protection through the introduction of resistance against plant diseases caused by insects or viruses or through increased tolerance towards herbicides.

Resistance against insects is achieved by incorporating into the food plant the gene for toxin production from the bacterium *Bacillus thuringiensis* (Bt). This toxin is currently used as a conventional insecticide in agriculture and is safe for human consumption. GM crops that inherently produce this toxin have been shown to require lower quantities of insecticides in specific situations, e.g. where pest pressure is high. Virus resistance is achieved through the introduction of a gene from certain viruses which cause disease in plants. Virus resistance makes plants less susceptible to diseases caused by such viruses, resulting in higher crop yields.

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第 6 頁 (6 頁の内)

Herbicide tolerance is achieved through the introduction of a gene from a bacterium conveying resistance to some herbicides. In situations where weed pressure is high, the use of such crops has resulted in a reduction in the quantity of the herbicides used.

(出典 : <https://www.who.int/news-room/questions-and-answers/item/food-genetically-modified> より一部改変)

注 : genetically modified organisms (GMOs), 遺伝子組換え生物 ; microorganisms, 微生物 ; perceive, 認知する ; consumer, 消費者 ; toxin, 毒素 ; insecticide, 殺虫剤 ; consumption, 消費・摂取 ; pest, 害虫 ; susceptible, 影響されやすい・病気になりやすい ; herbicide, 除草剤

(1) "What are genetically modified (GM) organisms and GM foods?"について書かれている内容を日本語で要約せよ。

(2) "Why are GM foods produced?"について書かれている内容を日本語で要約せよ。