

EARTHRISE English Logic and Expression III Advanced

Lesson 5 Smart agriculture [教科書 pp. 36-39]

Listening Quiz

1. True 2. False

Task 1

●About the dialog

- (1) He says it means using modern technologies like AI to make farming more efficient.
(2) (AI can use data from soil sensors) to automatically adjust the amount of water that crops are given.
(3) He thinks it will make their lives much easier.

●About the news article

- ① July 7, 2023
② To respond to
 • climate change
 • the severe labor shortage in agriculture
③ • (It will) make farming more efficient.
 • (It will) increase crop production.

Task 2

(解答例)

Advantage(s)

- Needs less human labor
- Easy to control crop quality
- Raises food sufficiency

Disadvantage(s)

- Requires some IT skills
- Machines and technologies cost a lot.
- Machines may break down.

Your ideas

Smart agriculture may solve the labor shortage in agriculture, but acquiring the machines and other IT tools needed will cost a lot of money. I think it will take some time, therefore, for smart agriculture to become common.

Other students' ideas

The machines and IT tools needed for smart agriculture will certainly cost a lot, but they will pay for themselves in the long run. Moreover, smart agriculture will attract young people who are familiar with IT tools.

(別解例)

Your ideas

- Smart agriculture makes it easier to control crop quality. In other words, it increases efficiency.

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This is important, because the amount of land that can be used for farming in Japan is limited, and we need to increase efficiency as much as possible to make farming sustainable.

- Japan's food self-sufficiency rate is very low, so we urgently need to increase it. Introducing smart agriculture will help us increase crop yields, which will in turn improve the country's food self-sufficiency rate.

Other students' ideas

- Farming is traditionally considered a physically demanding job, but smart agriculture reduces the demand for human labor by automating many of the jobs farmers have been doing by hand. This gives farmers more free time, of course.
- In some rural areas, the communication environment is not well developed, and this makes it difficult to introduce the tools needed for smart agriculture. To make it possible for smart agriculture to become more common, the infrastructure will need to be improved.

Task 3

(解答例)

①

Agree: Japan's farming population is growing older.

Disagree: Machines are expensive.

②

- Smart agriculture will change the image of farming, so it will attract more young people.
- Introducing new technologies is difficult for people without specialized knowledge, so it would be a great burden on farmers.

③ Your position: Agree / Disagree

- The machines needed for smart agriculture cost a lot of money, and not every farmer will be able to afford them.
- Japan's farming population is growing older, and many farmers will be reluctant to use modern technologies.

(別解例)

①

Agree: Smart agriculture can prevent the use of more fertilizers than necessary.

Disagree: It's not certain that smart agriculture can really increase efficiency.

②

- Smart agriculture allows the minimum necessary amount of pesticide or fertilizer to be calculated.
- There is a lack of empirical data showing that smart agriculture is actually more efficient than traditional farming.

③ Your position: Agree / Disagree

- Farming is a physically demanding job. Smart agriculture will reduce the burden on farmers.
- Introducing smart agriculture is a good way to increase crop production and quality.

Your position: Agree / Disagree

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- It is still arguable whether smart agriculture is practical in the local context of Japan.
- Smart agriculture may increase the use of pesticides or fertilizers that damage the environment.

Task 4

(解答例)

I do not think smart agriculture will become common in Japan in the future for two reasons. First, the machines that are needed cost a lot of money. Many farmers in Japan are self-employed and operate only small businesses, so they will not be able to afford to buy or rent expensive machines. In addition, Japan's farming population is growing older, and I am sure many farmers would rather use their own experience than rely on modern technologies. For them, growing crops is something that should be done with the hands, not with machines. (94 words)

(別解例)

I think smart agriculture will become common in Japan in the future for the following reasons. First, Japan's farming population is growing older, and the labor shortage in agriculture is a serious issue. Smart agriculture will change the traditional image of farming, so that it attracts more young people who are familiar with modern technologies. Second, smart agriculture can prevent the use of more pesticides or fertilizers than necessary. This will help farmers reduce the costs of crop production. It is also an environmentally more sustainable practice as it minimizes damage to the environment. (94 words)

TRY

(解答例)

Hello everyone. Many people seem to believe that smart agriculture will be a real game changer, but I don't think it will become common in Japan. I have two reasons for saying so. First, the machines that are needed to make smart agriculture possible cost a lot of money. Many farmers in Japan are self-employed and run only small businesses. Many of them will not be able to afford to buy or rent expensive machines. In addition, Japan's farming population is growing older, and I'm sure many farmers would rather use their own experience than rely on modern technologies. For them, growing crops is something that should be done with the hands, not with machines. In this situation, it's impossible to imagine farmers accepting new technologies, even if they would make farming more efficient. Thank you for listening.

(別解例)

Hi everyone. Some people think that there are too many obstacles to introducing smart agriculture in Japan, but I think it will become common in Japan in the future for two reasons. First, Japan's farming population is growing older and the labor shortage in agriculture is a serious issue. Many people think that farming is a physically demanding job that requires long working hours. Smart agriculture will change the traditional image of farming, so that it attracts more young people who are familiar with modern technologies. Second, smart agriculture can prevent the use of more pesticides or fertilizers than necessary. This will help farmers reduce the costs of crop production. It is also an environmentally more sustainable practice as it minimizes

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damage to the environment. Smart agriculture is definitely the future of farming in Japan. Thank you for listening.