



Epreuve du 1^{er} groupe

ANGLAIS

The discovery of a genetically modified rice

Scientists from 12 universities in eight countries are working to develop a new strain of hyper efficient, drought-resistant rice known as C4. And in a world with a rapidly changing climate where nearly a billion people live in hunger, it could have a huge impact. It also produces a greater yield in warmer temperatures while using less water.

5 Over 3 billion people across the globe depend on rice for survival. It's one of the most widely consumed food crops, providing over one-fifth of the calories consumed by humans worldwide. As populations grow, this demand will increase. According to the International Rice Research Institute, each hectare of land (about 2.5 acres) used to cultivate rice in Asia provides food for 27 people. But by 2050, that same hectare will feed 43 people.

10 Meanwhile, climate change will make production more difficult. Increased global temperatures will bring more erratic weather patterns, including more frequent and more intense droughts, and this will increase water scarcity and make the cultivation of this vital crop ever more difficult. "The planet is set to increase to 9 billion by 2043", says Paul Quick, a principal scientist at the International Rice Research Institute in the Philippines. "As the world gets hotter, we have to think of new and novel ways of improving agriculture to meet the food demands of the future".

15 Scientists are quietly hopeful of a breakthrough soon ; the Massachusetts Institute of Technology named the C4 project one of the "to Breakthrough Technologies of 2015". If successful, C4 rice could revolutionize a planet in which a steadily changing climate is putting the world's food supply at risk. "A stable supply of food in emerging economies would be an incredible boost to the global economy", says Hibberd. "It could also create greater societal stability worldwide".

Adapted from newsweekmagazine.com, March 3rd, 2016.

I. READING COMPREHENSION (8 marks)

A. Fill in the gaps with words taken from the indicated paragraphs of the text. (2 marks)

Because hunger is a crucial issue in the world, scientists have been doing research on food self-sufficiency for some years. And today they have made a life-changing discovery. This unprecedented(1)..... (parag. 4), which has been acclaimed by the Food and Agriculture Organization (FAO), is about a (2)..... (parag. 1) of rice that is resistant to weather changes, particularly to (3)..... (parag. 3) phenomena related to climate. Scientists assure that farmers living in tropical areas can expect an important (4)..... (parag. 1) from this genetically modified rice.

B. The table below is all about the genetically modified rice. Fill in the table with information from the text. For the advantages of the genetically modified rice you will consider the following sectors: agriculture, economy, society. (2.5 marks)

Natural characteristics	Advantages		
	Agriculture	Economy	Society
5.	7.	9.	10.
6.	8. A steady food supply		

C. What do the following figures refer to in the text ? (1 mark)

Figures	References
Over 3 billion	11.....
9 billion	12.....

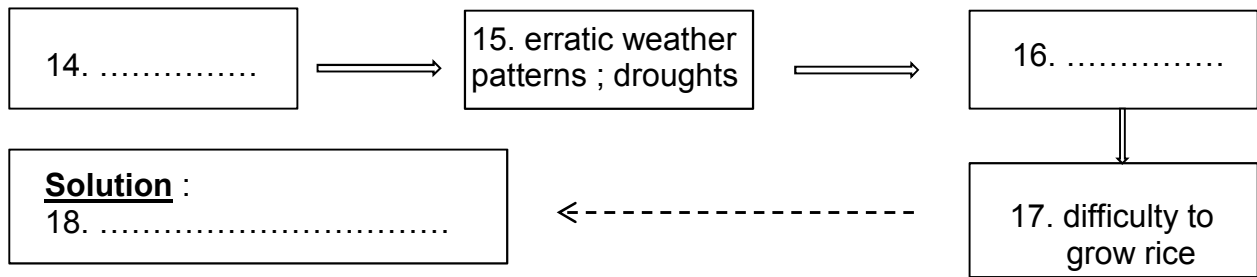
D. How long will it take for a hectare of land used to grow rice in Asia to feed 43 people? Justify your answer. (1 mark)

13.

E. The following diagramme is about the logical chain of causes and consequences related to the problem of agriculture in the text.

Complete the following diagramme with information from the text.

(1.5 marks)



Solution :

18.

II. LINGUISTIC AND COMMUNICATIVE COMPETENCE

(7 marks)

F. Fill in the gaps with words derived from the ones between brackets.

(2 marks)

Because of the rapid (19)..... (*grow*) of the world population and the (20)..... (*devastate*) effects of climate change on agriculture, scientists are doing their best to improve the(21)..... (*production*) of farms. In Senegal researchers from ISRA are working on a variety of seeds that could be (22)..... (*profit*) to farmers.

G. Match each statement in the box to the intention of the speaker (author or person quoted) in the list below :

(2 marks)

- a. – expressing fact
- b. – making a parallel
- c. – expressing necessity
- d. – showing doubt
- e. – giving additional information
- f. – making a deduction

Statements	Intention
23. We have to think of new and novel ways of improving agriculture. (line 14)	
24. As populations grow, this demand will increase. (line 6 7)	
25. It also produces a greater yield in warmer temperatures while using less water. (lines 3-4)	
26. Scientists from 12 universities..... known as C4. (lines 1-2)	

H. A farmer who grows rice and a scientist who works on the C4 project are discussing.

Fill in the gaps with the right tense or form of the verbs between brackets. Complete the last line with your own words.

(3 marks)

Farmer : Is it true that much water is not needed with this type of rice ?

Scientist : Yes indeed ! You (27)..... on poor rainy seasons anymore, in the future. (not to depend)

Farmer : Oh, that’s great ! You know, rice is a water-loving crop. That’s why irrigation (28)..... by farmers worldwide. (to practice)

Scientist : Absolutely ! We (29)..... the issue of irrigation during the COP 21 held in Paris from November 30 to December 11, 2015. (to discuss)

Farmer : Many people around the world live on rice. It’s really a vital crop!

Scientist : It really is!

Farmer : I hope (30).....

III. WRITING :

(5 marks)

Choose one topic only. Write about 150-200 words.

Topic 1: As a representative of the agriculture department in your country, you deliver a speech to your community to sensitize people on the importance of consuming local products (rice, tomatoes onions...). Write the speech.

Topic 2: According to you, why should the Senegalese government focus on the development of agriculture? What can be the obstacles to a prosperous agriculture? What solutions would you suggest?