



**UNIVERSIDADE FEDERAL DA PARAÍBA
CENTRO DE CIÊNCIAS HUMANAS, SOCIAIS E AGRÁRIAS
PROGRAMA DE PÓS-GRADUAÇÃO EM CIÊNCIAS AGRÁRIAS (AGROECOLOGIA)**

**ENGLISH TEXT EXAM FOR GRADUATE STUDENTS
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PROVA COM GABARITO DAS RESPOSTAS

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**EXAMINATION ON READING COMPREHENSION PROFICIENCY IN ENGLISH FOR
GRADUATE STUDENTS**

**READ THE TEXT BELOW AND THEN ANSWER, IN PORTUGUESE, THE PROPOSED
QUESTIONS:**

Disease may wipe out world's bananas – but here's how we might just save them



Catastrophe is looming for the banana industry. A new strain has emerged of a soil-borne fungus known as “Panama disease” which can wipe out entire plantations – and it is rapidly spreading around the world. Farmers in Australia, Latin America and across Asia and Africa all fear the worst.

The fungus is almost impossible to stop or eradicate. It moves through soil, so contamination can be as simple as infected dirt travelling from one farm to another on the sole of a shoe, or as complex as soil particles blowing on the wind across long distances – even across oceans, in theory.

Faced with huge losses to a global industry, many have called for a new strain of disease-resistant “superbanana”. However, this would be just another temporary fix. After all, the world's most popular banana, the Cavendish, was itself the wonder fruit of its day, being introduced in the 1950s after an earlier strain of Panama disease destroyed its predecessor.

The fungi simply adapted and fought back, though, until the Cavendish also became susceptible. Panama and other diseases will continue to do so until we seriously reform how we grow and market bananas.

The banana industry is its own worst enemy. The huge farms where most exported bananas are grown are ideal for pests. These plantations are monocultures, which means they grow only bananas and nothing else. With very few shifts between crops over the years, and lots of tropical sunshine, there is an abundant and year-round supply of food for pests without any breaks, in time or space, to disrupt the supply and lower the disease pressure.

Banana producers spend a third of their income on controlling these pests, according to a study I published in 2013. Chemicals to control microscopic but deadly worms are applied several times a year. Herbicides that control weeds are applied up to eight times a year, while bananas may be sprayed with fungicides from a plane more than 50 times per year in order to control Black Sigatoka, an airborne fungus.

Keep out, pests! Fairsing

And those bags that are wrapped around each individual banana bunch? They're lined with insecticides to serve as both a physical and chemical barrier to insects feeding on and damaging the skins.

All of this amounts to approximately one litre of active ingredients for every 18.6 kg box of bananas that is exported to consumers in the global north. It's a huge, long-running problem for the industry and the new strain of Panama disease may just be the nail in its coffin.

Or maybe this is the wake-up call the export banana industry so desperately needs.

Searching for the superbanana

Given the way the fungus spreads, containment and quarantine are hardly long-term solutions. Some experts, especially those entrenched in the business of growing export bananas, argue that we need to breed or genetically modify a new type of banana that is resistant to the latest strain of Panama disease.



But this is harder than it sounds. Modern bananas – the tasty yellow ones – don't exist in nature; they were bred into existence around 10,000 years ago. They reproduce asexually, which means they don't have seeds and every banana is a genetic clone of the previous generation.

This lack of genetic variation makes breeding a new banana particularly challenging. If one Cavendish is susceptible to a disease, all others will be too. When all bananas are clones, how do you create the genetic variation from which traits for better disease resistance can be identified and nurtured?

A new banana would also have to be tasty, durable enough to withstand long voyages without bruising, and bright yellow. Looks really do trump pest-resistance. A new type of banana introduced during a previous Panama disease panic back in the 1920s was rejected by consumers for going black on the outside, even when it was ripe and sweet inside.

Saving the banana

Today, banana growers are in a fight for survival, continuously applying newly-formulated fungicides in an effort to keep ahead of the diseases. But they are acutely aware that they are losing ground. While breeding a new banana staves off the current problem, history has already shown that this doesn't get to the root of the problem, which is the design of the production system.

We need to ditch the massive farms. Around the world, millions of small-scale farmers already grow bananas in a more organic and sustainable way. Alongside bananas are cacao, avocado, mango, corn, orange, lemon and more. A mix of crops creates more stable production systems which rely on fewer, if any, pesticides and generates diverse income sources, handing local people greater food sovereignty. Farms where bananas are mixed in with other crops are also more resilient to climate change which is likely to hit banana-producing regions – developing countries – harder than most.

Yes, this would mean fewer bananas are grown. Sustainable agriculture simply can't keep up with the megafarms. But if we learned to ignore the odd blemished or undersized banana, then the actual amount sent to market need not drop at all.

The farmers themselves should be okay as they'll make up their income by producing different crops. Breaking the dominance of the banana multinationals should also distribute wealth among more farmers and empower the regions where they're grown. As a consumer, ask yourself this: isn't that a far better way to spend your money?

Retrieved from: <https://theconversation.com/disease-may-wipe-out-worlds-bananas-but-heres-how-we-might-just-save-them-54082>. **Access:** June 6th, 2019.

QUESTIONS

After reading the text: “Disease may wipe out world’s bananas – but here’s how we might just save them”, please, answer in PORTUGUESE the five proposed questions.

1. According to the text, explain how catastrophic a simple fungus can be to the banana export industry.

O fungo pode ser catastrófico para a indústria de banana, pois, como ele se apresenta no solo, sua transmissão de um terreno para outro pode ser dar muito rapidamente, seja, simplesmente, sendo levado nas botas dos trabalhadores ou por meio das partículas de solo/terra levadas pelo vento, podendo estas, inclusive, teoricamente, cruzar os oceanos.

2. Point out the relation among the banana export industry, the presence of pests such as fungi, and the superbanana.

O processo industrial da banana ainda é baseado na monocultura em larga escala em grandes propriedades, o que implica poucas variações do cultivo na terra, ou seja, a monocultura somada à forte incidência do sol tropical proporciona uma grande fonte de alimentos necessários à proliferação das pestes, como são os fungos, que se tornam resistentes mesmo às novas espécies que são produzidas a fim de eliminá-los, como aconteceu com a superbanana na década de 50, no Panamá, que também ficou susceptível aos fungos.

3. The text speaks of a loss in income for banana producers as well as in a huge raise in the use of insecticides in banana crops. Tell what the importance of this is in the banana export industry, according to the text.

O aumento do uso de inseticidas e herbicidas compromete o lucro das exportações, o que leva os produtores de banana a pensar ou rever seus modelos de cultivo/produção de bananas, visando a diminuir tais perdas, resultando, por

assim dizer, num processo de produção economicamente viável para o produtor e ecologicamente correto e saudável para o consumidor.

4. Explain the implications that banana genetic characteristics have on the problematization of banana export industry.

Como as bananas modernas não existem na natureza, uma vez que elas são a consequência de uma reprodução assexuada que teve início há 10.000 anos, ou seja, elas não têm sementes, caracterizando-se, por assim dizer, como clones umas das outras, torna-se praticamente improvável a criação de uma espécie resistente à doença do Panamá que auxilie os produtores da indústria de exportação de bananas no combate a essa doença.

5. The text points out to a solution to the problem of the banana export industry. Mention what solution that would be, explaining its implications on the issue of climate changes.

O texto menciona uma solução com base na sustentabilidade, que é a erradicação da monocultura da banana, em substituição de plantações de bananais que estejam em meio a outras culturas, tais como: cacau, abacate, manga, milho, laranja, limão e muitas outras. Esse novo modelo de produção, por meio do cultivo misto, se apresenta como sistema de produção mais estável, com pouco ou quase nenhum uso de pesticida, gerando lucros mais diversos e garantindo à população local maior soberania alimentar. Além disso, o cultivo de produção mista mostra-se mais resiliente às mudanças climáticas que afetam principalmente os produtores de banana de países em via de desenvolvimento.