Writing Test: Biotechnology

Genetically Modified Food

Pre-reading Discussion: Activating Background Knowledge

1. What is a genetically modified food?
2. Are genetically modified foods available in your local supermarket?
3. Do you believe genetically modified foods are safe? Why or why not?

Read the passage. You have three minutes. Remember, you can refer to this reading as you write.

Genetically modified foods are a new generation of super crops that have been enhanced through biotechnology. They vastly increase crop yields and deliver staples that offer improved nutritional quality to the developing world, where over eight million are suffering from hunger and malnutrition. With world population levels expected to rise to 9 billion by 2050 and the **bulk** of that growth expected in Third-World nations, biotechnology is heralded as the savior of the poor and undernourished.

The **DNA technology** used in these super crops is a modern adaptation of the **traditional** cross-breeding of plants, which farmers have been **refining** for centuries in an effort to develop better crop yields. This new technology offers many advantages over the conventional method, which is both time-consuming and inaccurate. First, scientists can **isolate** the desired gene from one crop and simply **insert** it into another plant's **DNA**. What's more, they need not limit themselves to cross-breeding plants of the same species. Instead, they can select genes from a diverse range of organisms. For instance, scientists can **extract** the antifreeze gene in coldwater fish and insert it into a potato. In this way, they can create a new variety that will thrive in cold climates.

Finally, certification **procedures** for genetically modified foods **guarantee** these products are safe for human consumption. In fact, to enter the marketplace, a **DNA**-modified item must pass a substantial equivalence test. This test compares the new food to a similar non-modified product in terms of standards such as its chemical and nutritional properties. Even if the modified food is deemed **equivalent**, additional safety checks in the form of animal testing are enforced.

Narrator: Now, listen to part of a lecture on the same topic.

CD 2, Track 6

Integrated Writing Question

Summarize the main points in the lecture, being sure to explain how they oppose points made in the reading passage.

Answer Orally before Writing

Use your notes and the Integrated Essay Checklist on page 123 to answer the question orally.

WRITING

Academic Discussion

1. Do you think genetically modified foods will help end the world hunger problem? Why or why not?
2. Do you agree or disagree that biological engineering of food is simply a modern adaptation of a technique farmers have been employing for centuries to improve crop harvests?
3. Are you satisfied with the government regulations guaranteeing that genetically modified foods are safe for human consumption? Why or why not?
4. Are genetically modified foods labeled in your country? Why or why not?
5. Do you think that genetically modified foods should be labeled? Why or why not?

Thinking about the Writing Process: Write a Journal Entry

Before you write your essay, write a journal entry outlining the proper steps, outline, and language involved in writing an integrated essay. Compare with a partner.

Write Your Essay

Write your essay. Because you are learning, take 60 minutes instead of 20 minutes to write your essay. Your instructor will give you feedback. Record your score in the Writing Test Scores chart on page 607. Record your errors on a Writing Error Chart like the one on page 609.

Sample Notes

Reading

1. super-crop enhanced biotech.
- ↑ crop yield
- deliver staples ↑ nutrition → developing wrld.
- 8M hungry
- wrld. pop. ↑ 9B 2050

biotech save poor & undernourished

2. **DNA** tech = modern adaptation cross-breeding farmers used C ↑ crop yields
- advantages
- isolate gene insert to recipient plant **DNA**

Listening

controversy re: so-called benefits

1. agri-biotech multinationals : feed world's hungry = altruistic motive
- X, all about profit
- no shortage of food
- hunger b/c poverty
- 1/2 wrld < $2 day, X $ buy food
- corporations make situation ↓ b/c patent seeds farmers X afford

2. US gov't: gen. engin. = tradition. cross-breeding, X true
- cross species barrier

- X need limit same species
- select genes diverse range organisms
- coldwater fish + potato (potato grows in cold)

3. Certification procedures = guarantee safe human
- substantial equivalence test
- compare X-modified food
- chemical & nutritional properties
- safety checks: animal testing

- insert human gene → tobacco, bacteria → corn virus → fruit, fish → tomato
- = contrary nat. evolution. process
- w/ unforeseen conseq. = M lives risk
- X simply + desired trait
- gene react different new envir. →
- unexpected substances = toxic

3. Excuse safety standards = substan. equiv.
- human pop. serious threat X label
- unscientific measure—producers decide
- attributes tested = taste, appearance
- animal test = superficial & short-lived
- X long-term animal or human test

2W3 Sample Essay

Circle the transitions and underline the citation language. Double underline verbs for contrast.

The professor discusses the negative aspects of genetically modified foods. Specifically, she talks about corporate motives, the toxicity of the products, and inadequate safety standards. The information she presents is in direct opposition to points made in the reading.

First, the professor explains that corporations involved in the production of genetically modified foods are in the business for profit, not to help feed the poor. She also states that world hunger is a result of poverty rather than a lack of food. However, according to the reading, agri-biotech companies will feed the poor of tomorrow's world with their new and improved super crops.

Second, the lecturer makes the point that biological engineering of food is contrary to nature and may pose unanticipated health issues. For example, she explains that inserting a foreign gene into a food may generate toxic substances that could prove dangerous. On the other hand, the reading points out that the genetic engineering of food is simply an extension of conventional cross-breeding methods that farmers have used for hundreds of years.

Third, the speaker feels that current safety regulations governing genetically modified foods are less than adequate. She explains that food corporations are, inreality, setting the standards themselves because they decide which traits of a modified food should be tested. In addition, she thinks that animal testing needs to be extended and human testing needs to be put into effect. In contrast, the reading gives the impression that safety measures are of the highest standard, thereby ensuring that genetically modified foods are entirely risk-free.