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WRITING LESSON

GENETICALLY MODIFIED FOOD

The YES! online article "**A Month Without Monsanto**," by **April Dávila**, is a story about the potential health effects of genetically modified foods, and April Dávila's need to learn where her food came from.

Students will use April Dávila's story to write about what matters most to them in the food they eat.

Part 1: The Article

A Month Without Monsanto

April Dávila wondered what it would take to cut the GMO giant out of her family's life. She found that it was far more entrenched than she'd ever realized.

Crop dusting in Mississippi. Photo by Roger Smith.

By April Dávila

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In January of this year, while procrastinating on Facebook, I followed a link to an article reporting on evidence that there may be health effects associated with consuming Monsanto's genetically modified (GM) corn. Clicking on that link was one of those moments on which I look back and laugh. I had no idea how my life was about to change.

Monsanto's Reach

The article I stumbled onto concerned a study done in 2009 by a group of French scientists investigating the safety of genetically modified food. Their results, as published in the International Journal of Biological Sciences, pointed toward kidney and liver damage in rats fed GM corn.

I began to research where exactly Monsanto corn appeared in my family's diet. With a little online sleuthing, I learned that in addition to producing the genetically modified corn, Monsanto produces several other genetically modified crops such as soy, sugar beets, and cotton. Many of these crops form the foundation of our diets: 70 to 80 percent of American processed foods contain genetically engineered ingredients,

according to the Grocery Manufacturers of America. A large percentage of the cotton in our clothes and homes begins in Monsanto's labs.

Probing a little deeper, I was surprised to learn that a company specializing in genetically modified plant crops also had an enormous influence on America's meat industry. Sixty percent of genetically modified corn goes to feed

By day two of my attempt to remove Monsanto from my life, I realized I was in way over my head.

America's beef cattle. Additionally, Monsanto's recombinant bovine growth hormone (rBGH) is used to increase milk production in many dairy cows.

Tracing Foods Back to their Source

I decided to see if I could go the entire month of March without consuming any Monsanto products. I committed to an all organic, vegan diet, and reluctantly invested in a small organic cotton wardrobe. It was an experiment born of curiosity: I wanted to know just how deeply my life was influenced by Monsanto, a company I knew little about before that click of my mouse in January.

By day two of my attempt to remove Monsanto from my life, I realized I was in way over my head. For the past 10 years Monsanto has bought up seed companies around the globe. They now own a majority of the seed lines in America, including a large percentage of organic seeds. For everyday purposes, a Monsanto seed that is grown organically is still organic, but in my attempt to avoid Monsanto, I was left without any easy way of knowing what foods fit my experiment. I retreated to subsisting on wild-caught fish while I dug deep to try to figure out where exactly my foods came from.

With the help of sustainable food advocate Cassie Gruenstein, I got in touch with dozens of health food stores and manufacturers to ask where they sourced their products. I spent hours at the farmers' market asking farmers what seed companies they bought from, googling on my iPhone before making purchases. It took several weeks, but I slowly built a somewhat normal Monsanto-free existence.

Unfortunately, with the exception of a few national brands (check out Annie's, Inc. Massa Organics, and Lundberg Farms for a good start), there is no easy way to avoid Monsanto. It requires talking with the person who grew your food—every ingredient of every bite.

Good First Steps

While it's extremely difficult to entirely avoid Monsanto, there are some basic guidelines that anyone can use to minimize the genetically modified organisms in their lives.

1. Avoid processed foods. In particular, eliminate High Fructose Corn Syrup (HFCS) from your diet and be sure to read labels. HFCS appears in everything from sodas to wheat bread.

2. Consider going vegetarian, limiting your meat consumption, or buying grass-fed varieties. Over 60 percent of genetically modified corn goes to feed cattle on polluting concentrated animal feeding operations (CAFOs) in America.

3. Buy organic dairy products to make sure animals weren't given Monsanto's recombinant bovine growth hormone.

There is no easy way to avoid Monsanto. It requires talking with the person who grew your food—every ingredient of every bite.

4. Buy organic cotton when you can. Monsanto is a major player in the cotton industry. Even though cotton makes up only 2.5 percent of the world's crops, it is doused with 16 percent of the world's pesticides. Cotton pesticides, most of which are listed as

"extremely hazardous" by the World Health Organization, turn up regularly in water sources around the globe.

What most amazed me during my month without Monsanto was the influence that one corporation had in my daily life—without me knowing anything about it. Once I started looking, Monsanto was everywhere. Once I started making the effort to avoid it, I found something else that surprised me: the confidence that comes from really knowing what I'm eating.

April Dávila wrote this article for YES! Magazine, a national, nonprofit media organization that fuses powerful ideas with practical actions. April is a professional writer living and working in Los Angeles, California. Find out more about her at AprilDavila.com.

Part 2: The Writing Prompt

April Dávila discovered that around 70 percent of processed foods on American supermarket shelves contain genetically modified organisms (GMOs). Does this concern you? What matters most to you about the food you eat?

Part 3: Writing Guidelines

The writing guidelines below are intended to be just that: a guide. Please adapt to fit your curriculum.

- Provide an original essay title.
- Reference the article.
- Limit the essay to no more than 700 words.
- Pay attention to grammar and organization.
- Be original. Provide personal examples and insights.
- Demonstrate clarity of content and ideas.

Common Core State Standards:

This writing exercise meets several Common Core State Standards for grades 6-12, including W. 9-10.3 and W. 9-10.14 for Writing, and RI. 9-10 and RI. 9-10.2 for Reading: Informational Text. This standard applies to other grade levels. "9-10" is used as an example.

How did this lesson work for you and your students?
Share your feedback with us and other teachers
by leaving a comment on our website:

www.yesmagazine.org/for-teachers/writing-competition-essays/writing-lessons/genetically-modified-food

Part 4: Evaluation Rubric

Our rubric should serve as a guide, not an unreasonable or rigid standard. You've probably encountered similar rubrics before, but here are two quick pointers for using ours:

1. In the left column, find the criteria for evaluating essays.
2. In the top row, find scores from 4 (outstanding) to 1 (poor).

	4	3	2	1
Focus on topic	There is one clear, well-focused topic. Main idea is supported by detailed information.	Main idea is clear, but general.	Main idea is somewhat clear, but there is need for more supporting evidence.	Main idea is not clear. There is a seemingly random collection of information.
Organization	Details are placed in a logical order and the way they are presented effectively keeps the reader's interest.	Details are placed in a logical order, but the way they are presented sometimes make the writing less interesting.	Some details are not in a logical or expected order, and this distracts the reader.	There is no clear introduction of the main topic or structure of the paper.
Originality and strength of ideas	Formulates a thought-provoking, well-developed, and fairly original position on an issue.	Writer takes a clear position on an issue, though it is not developed fully.	Writer's position is evident, though it is vague.	Fails to take a clear position, or writer contradicts herself.
Evidence and/or reasoning	Provides specific reasons and/ or evidence that demonstrate understanding and insight.	Offers adequate – though perhaps vague or incomplete – supporting reasons and/or evidence	Provides less than adequate or contradictory reasons or evidence to support position.	Offers only general reasons or evidence or none, or offers evidence contradictory to the writer's thesis or main idea.
Command of grammar and conventions	Command of conventions exhibited. Creative word choice and varied sentence structure.	Correct use of grammar and conventions (for the most part).	Weak control of grammar and conventions. Errors are distracting.	Use of grammar and conventions interferes with understanding.
Voice	Author's voice is strong and engaging. Draws reader in.	Writing attracts reader's interest. Author's voice shows engagement with the topic.	Technically well written; however, author's voice is weak.	Writing fails to engage the reader. Does not demonstrate writer's interest in topic.

* Adapted from "Rubric for Editorial – Commentary Essay" from LAEP.org and "6+1 Traits of Writing Rubric" from ReadWriteThink.org.

Part 5: Sample Essays

Living Organic

By Sharon Lin, Grade 8

After reading the YES! Magazine story, "A Month without Monsanto" by April Dávila, I began to notice that there is a plethora of secrets surrounding the foods around me. Dávila discovered that almost 70 percent of the foods on grocery store shelves are made with genetically modified organisms, whether it's corn or some other by-product of genetic engineering. This fact, though not totally shocking, is appalling to me. Has our nation declined to the point where we cannot even supply ourselves with real food, subjecting ourselves to the whims of the genetically modified foodstuff that has practically been proven to have adverse effects on the human body?

In an article April had read in 2009, scientists performed experiments on rats, feeding them genetically modified (GM) corn and measuring their physical wellness. The study pointed towards kidney and liver damage—certainly effects that would be frowned upon by the public. Yet, even while we point fingers at others for consuming such lethal foods, why is it that nearly every American household has at least one box of cereal in their pantries? Kellogg's and General Mills admit they use GM corn to produce their breakfast cereals and other foods; in fact, the majority of American name brands use GM produce as ingredients because they are the cheapest to purchase in bulk.

I believe that you are what you eat. If you feed your body chemically enhanced food that has the potential to harm you simply because it might be cheaper or more convenient than seeking out organic, wholesome foods, then you are cheating yourself out of a healthy lifestyle. Inspired by April's journey to live for a month without any Monsanto-produced foods, I adopted my own strict diet regimen. Mine, similar to hers, was organic vegan. I began by making weekly visits to my local farmer's market to seek out produce that I could be sure was grown without chemical enhancers or GM seeds. Additionally, I supplemented my diet with beans, nuts, and other healthy and organic foods. Although the change was difficult and tiresome at times, I loved how I felt about myself.

Apart from the new energy coursing through my veins, I felt a surge of self-confidence, knowing that I was able to help the world in a small way. Organizations like Monsanto are not doing anyone a favor by producing GM foods when the entire field of genetic engineering is still in its infancy. Perhaps in the future, when there has been more conclusive research performed regarding the effects of GM foods, we might be safe to consume such large quantities of modified produce. In the meantime, however, it is best to purchase locally grown and raised meats and vegetables. Not only will you help local farmers, but you will also contribute to a healthier earth and a healthier you.

Though I can understand that the issues surrounding the production of GM corn and other products might be subjective, I still believe that when the choice is given, the quality of food should be given priority over its quantity. Feeding throngs of people off cheap food is not necessarily a bad thing, but, to me, it is more satisfying to have a smaller portion of food that you know is good than large supplies of food that could harm you. You are what you eat, and, as April Dávila discovered, the foods that go into your body play a huge role in how you will feel in the future. Would you rather succumb to the consequences of ingesting cheap, tinkered food, or take charge of your life for a happier, healthier tomorrow?

The Problem with GMOs

Russel Chiang, Grade 7

GMO crops are produce that are transformed from their natural state into bigger, better, and faster growing plants to make a profit. When we, as humans, inject new DNA into the DNA of older crops, we don't stop to think about what we are putting in our own bodies and why we are doing that. Ultimately, the plants that GMO companies alter, grow, harvest, sell, and make a profit off of are going to be eaten. April Dávila, in her YES! Magazine article "A Month Without Monsanto," explored the pervasiveness of these GMOs. I then wondered what happens when unnatural chemicals and the things that people inject into plants find their way into our bodies. Many destructive or disturbing effects can potentially take place including human health impacts, environmental damage, and domination of the food industry by a few companies who make genetically modified seeds.

According to experts, people who consume genetically modified crops have higher chances of developing cancer or an incurable disease because of the unknown cross- pollination and long-term effects. Articles state that genetically modified organisms can affect certain allergens and eventually may lead to harmful mutations. In a recent study in France, a company that makes GMO seeds fed corn to some lab rats, and discovered that there were not only several tumors in the test subjects, but also severe kidney and liver damage. Monsanto, the company that makes these seeds, has donated large sums of money to California Proposition 37 and has heavy lobbying power because of this. Prop 37 is the proposition put together by voters that requires companies and food businesses to identify GMO products into the food you consume. Almost 61 different countries either require that GMO products are listed or banned, but the US has not agreed on the banning.

Since 1996, 3.7 billion acres have been used to grow GMO crops, and pollination has spread the breed of the seeds to masses of lands and property. When farmers spray herbicides and pesticides on their plantations, the toxins and gases released into the air affect the plants and soil. Every day, people are unaware of what they are consuming and what they are doing to their bodies because GMOs are pervasive, and can be found in crops, including corn, soybeans, wheat, fruits, and certain animals. A vivid example of the cross-pollination of organisms is the strawberry. In an attempt to help strawberries tolerate frost—which is a threat to crops—genes of a particular fish that lives in the cold seas are inserted into a strawberry. Why would you want fish in your body when you eat a strawberry? Not knowing what we are eating can be very dangerous, let alone unpleasant, especially for people with allergies and adamant dislikes toward particular foods.

Finally, there are only a few companies that produce GMO seeds. What would happen if the world comes to rely on GMOs? A few companies, such as Monsanto, would control the whole spectrum of foods, and be filthy rich while people would still be questioning what the crops had in them and what they would do to their bodies before they would eat anything. Monsanto is buttering up the government by donating money so that the DNA contaminators won't stop making a profit. When people finally realize that GMO crops will have a big effect on their bodies, it will be too late.

Monsanto will probably tell you that it created its GMO seeds because it wanted plants

Part 5: Sample Essays

(Russel Chiang essay continued)

to be cheaper and bigger so that world hunger could stop. But now, some people are beginning to question the quality of produce and the reason why the GMO seed business is booming. Are these companies trying to make money or trying to help others, or both? In conclusion, GMOs are the worst possible scenario because they harm our health and destroy our natural habitat. Here's an equally scary thought: if one company were to control our food supply, what would happen to our economy?

GM Civil War: The Superfood Registration Act

By Erica Young, Grade 12

They're everywhere. They're in the streets. They're in the clothes you wear. They're in the food you eat. Even as we speak, the winds and waters are carrying them, silently but surely speeding towards the soon-to-be formerly clean areas. This may sound like a plot for a generic virus-disease-apocalypse horror movie, but it's a description of a real thing that is happening right now that has been sneaking up on us for decades. As April Dávila realized in her YES! Magazine article, "A Month Without Monsanto," genetically modified foods are everywhere, and people need to be aware of this epidemic that is sweeping not only across the United States, but the world.

I don't mean to sound alarmist and paranoid—humanity is always inventing, always looking for new things to improve the quality of life, and we're constantly innovating to push those improvements further and further. Since the establishment of settled communities, humans have selected and bred organisms with the most desirable traits. For instance, if there is a tomato that is bigger and better, and it can be bred with another tomato that has greater resistance to frost to make a generation of super!tomatoes, then that is seen as a great thing for humanity. Because of scientific advancements in DNA recombination, we are now able to give that super!tomato even more super powers—but at what price?

Like most comic book heroes, the creation of that super-super!tomato* requires some sort of mutation—for instance, one that causes it to be resistant to freezing. It's a mutation that benefits both consumer and entrepreneur. However, we cannot overlook the possible consequences of that gene—isolated, synthesized, and inserted from a laboratory into our organic selves. Foods that have been genetically engineered don't need to be labeled as long as the U.S. Food and Drug Administration (FDA) deems that they do not have "significantly different" characteristics. Though the FDA has to make sure these plants are "safe," it does not test the long-term effects these foods may have on humans, nor does it consider the potential impacts on plant biodiversity if some crops pollinate with other non-GMOs.

Because genetically modified foods are everywhere, I'm concerned that there has been minimal testing and scrutiny on their long-term impact on the world's food supply. Most people seem content with the FDA's and Congress's judgment. It's human nature that people tend to give up on matters for which they think they have little control. On top of that, human error is another factor that ultimately may lead to harmful decisions. If we were to turn the clock back a mere 50 or so years, we would see crowds of children being sprayed with a misty liquid from trucks that advertise:

D.D.T.
Powerful Insecticide
Harmless to Humans

This spraying may seem like an ominous action now because of discoveries that were made long after the toxic pesticide entered the bodies of those children. It makes me wonder if the right decisions about genetically modified foods are being made right now.

What matters to me about the food I eat is that I know where it's from; I am too easily lulled into a sense of complacency, of seeing

Part 5: Sample Essays

(Erica Young essay continued)

a food on my plate, and not really thinking about it much past "yeah, this came from a farm somewhere in Central California, maybe?" and just... eating. Which, if you think about it, goes against everything we've been taught as children—to think about what we're putting in our mouths before we do it, as well as to trust our instincts. Infants tend to sniff their food a bit to make sure what they're eating is something they approve of before really taking it in. Though I know it would be unrealistic to expect a detailed diagram of every step taken to produce the food I consume, I would like to at least know if and how a food has been genetically modified. Foods, like super heroes, need to wear their logo on their chests, so I know what to expect when I see them.

*Referring to the 'fish tomato', a transgenic tomato with antifreeze genes of a winter flounder; sounds like a radioactive superhero to me!

The title is a nerdy reference to the Marvel Civil War Arc, though that was really sad and I was against the registration act because it didn't do much but pander to people's fears, and Captain America dies so I am a sad puppy.

GMOs: A Right to Know

By Ryan Barry, University of Vermont

I am deeply troubled by the widespread consumption of genetically modified (GM) foods. Genetically modified foods are incredibly difficult to avoid in America. According to the Grocery Manufacturers of America "70 to 80 percent of American processed foods contain genetically engineered ingredients". Further, the agricultural giant Monsanto enjoys a virtual monopoly on seed companies throughout the nation. In the YES! Magazine article, "A Month Without Monsanto, author April Dávila rightfully laments that avoiding Monsanto involves "Talking with the person who grew your food—every ingredient of every bite."

Farmers have difficulties preventing their crops from becoming contaminated by genetically modified organisms (GMOs). Peter Schmeiser was sued after GM canola drifted onto his farm. Monsanto, the owner of the GM canola, argued that Schmeiser should pay for the unwanted, but patented, product. Schmeiser stood his ground, eventually settling with Monsanto to pay cleanup costs. Unfortunately, many farmers have been bankrupted by this company through no fault of their own.

Some studies have shown that genetically modified (GM) foods may have major impacts on health, but other scientists claim that GM foods are safe. In a situation where there's been plenty of debate and so much at stake, there still appears to be no conclusive data about the safety of GM foods. In the interim—while it is uncertain whether genetically modified food is harmful or safe—I would recommend applying the precautionary principle. The precautionary principle states: "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. "Guided by this principle—preferring to be overly safe rather than retrospectively sorry—the European Union decided to ban the cultivation of GMOs. Additionally, 64 countries already have GMO-labeling laws in place.

I attend college in Vermont, where the state's House of Representatives recently passed GMO-labeling legislation by an overwhelming margin. This proposed law, which still needs approval from the senate and the governor, would make Vermont the first state to require the labeling of GM foods. The main reason lawmakers argued against this law was based on fear of the big agriculture industry. According to Vermont Public Radio, the most frequently cited opposition to the law concerned "a likely lawsuit from the biotech or food industries that the Attorney General's office estimates could cost the state more than $5 million."

April Dávila advocates avoiding processed foods, eating less meat, and buying organic dairy products. These diet changes undoubtedly have numerous health benefits. Unfortunately, there are many people who do not have the financial resources to afford these food choices. Unhealthy and potentially dangerous foods are much cheaper because our government heavily subsidizes our unsustainable agricultural industry. Without these subsidies, organic and healthy foods would be priced much more competitively. The burden should not be on us to pay extra for higher quality, healthier food. As consumers and taxpayers, we should know what is in our food, so that we can make informed decisions.

Giant agricultural companies like Monsanto will argue that GMO labeling will generate unnecessary fear surrounding GM foods. I

argue that if these companies truly believe that GM foods are safe, they should have nothing to hide. If they believe their product is superior, they should be proud to label their food as genetically modified.

During my junior year at the University of Vermont, I lived in an environmental cooperative on campus. We prided ourselves on knowing where our food came from. We grew our own food, and bought the rest from local farms. It was empowering to know that we were achieving a degree of self-sufficiency while ensuring that we were eating healthy and supporting sustainable livelihoods.

A few years ago, I enrolled in a course called "Human Health and the Environment. I learned a great deal about how we are constantly affected by harmful chemicals in consumer products. A very small proportion of these chemicals have been tested for their health effects. We cannot keep risking our lives, not knowing the effects of our consumer products and the food that we eat. I hope that other states follow Vermont's example and stand up to the big agricultural giants. April Dávila took it upon herself to ensure that she knew what she was eating, and how it was produced. We as consumers and voters must follow suit by telling our political representatives that we have a right to know what we're eating.