

GMO OMG



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GMO OMG

Directed by Jeremy Seifert

2013 | USA | 93 min

TEACHER'S GUIDE

This guide has been designed to help teachers and students enrich their experience of *GMO OMG* by providing support in the form of questions and activities. There are a range of questions that will help teachers frame discussions with their class, activities for before, during and after viewing the film, and some web links that provide starting points for further research or discussion.

The Film

GMO (Genetically Modified Organism) is a term that immediately makes one think of science fiction, but GMOs are a harsh and shocking reality that impacts all of us daily. Jeremy Seifert's alarming documentary *GMO OMG* reveals that the majority of food we grow and ingest has been genetically modified, often without proper testing or regulation. Yes, we are in fact the guinea pigs of large corporate agriculture and chemical companies such as Monsanto and DuPont who have taken control of North American agriculture business in a grand experiment to make a buck. But as Seifert argues, it's not just the food we're eating that is being modified; it's also the seeds of future crops that are being "pumped up" for quick and pest-free harvests, but with zero re-growth bred into the seeds' DNA, making farmers reliant on continually buying GMO seeds year after year. It's a frightening picture that is rarely discussed in the news or current political debates, but as Seifert points out, it's not too late to take back control of what we consume and how we consume it.

– Robin Smith, Hot Docs

Source: <http://www.hotdocs.ca>

The Filmmaker

In 2010, Jeremy completed his debut film, *Dive! Living Off America's Waste*. Initially made with a \$200 budget, a borrowed camera and a lot of heart, *Dive!* went on to win 22 film festivals worldwide. In 2010 with the release of *Dive!*, Jeremy began the production company, Compeller Pictures. He is now a filmmaker and activist, traveling the country and speaking on humanitarian and environmental issues. Jeremy's second film, *GMO OMG*, tells the hidden story of the takeover of our food supply by giant chemical companies, an agricultural crisis that has grown into a cultural crisis. He has once again found the heart of the project in his own journey and awakening. Jeremy and his wife, Jen, live in North Carolina with their three children, Finn (7), Scout (4) and Pearl (2).

Source: <http://www.gmofilm.com>

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VIEWING THE FILM WITH STUDENTS

The following three subsections, are intended to provide you with a range of Pre-Viewing, Viewing and Post-Viewing activities. They are followed by a set of questions based upon the film's larger thematic domains, some follow-up questions and quotations, sample curricular outcomes and a page of web links for further investigation.

Pre-Viewing Activities

Show students the trailer and/or poster for the film found on the film's website (<http://www.gmofilm.com>). Have students work in small groups to try and identify themes or ideas conveyed by the trailer. As a larger group, discuss with students how effective/affective the trailer and movie poster are as media pieces.

Print several of the questions or quotations from the Extension Activities section of this guide on individual sheets of paper. Have students work in small groups or with partners to discuss if they agree with the ideas.

Set a purpose for viewing by having a discussion about one or more of the questions or quotations from the Extension Activities section of this guide. Have them share the statement and what they think or believe about it with the class.

Introduce the concept of genetically modified foods to the class. Show them a two-minute TEDx Toronto clip (<https://www.youtube.com/watch?v=x65LVPcCLfo>) with food activist Rachel Parent. Rachel is the 15-year-old founder of Kids Right to Know, who advocates for the labeling of genetically modified foods and awareness about GMOs in Canada.

Have students define Genetically Modified Organism. They can use a word organizer, by dividing a box in four. In each of the four boxes, have them write in one corner the following: "Definition," "Non-examples," "Examples" and "Use in a sentence." Ask the class their opinion about GMOs. Take it up as a class.

Have students create a mind map on the issues around GMOs using these four categories: Environment, Politics, Economy and Social. Have students brainstorm one issue for each, on their own or with a partner. Take it up as a class.

Explain to students the term "greenwashing," which is when a company or organization spends more time and money claiming to be "green" through advertising and marketing

than actually implementing business practices that minimize environmental impact. Greenwashing Index has more information on the topic (<http://www.greenwashingindex.com/about-greenwashing/>).

Viewing Activities

Have students complete the PBS viewing guide on documentaries (<http://www.pbs.org/pov/docs/Copies%20of%20Viewing%20Guide.pdf>). Students can revisit their completed documents as a Post-Viewing Activity.

Have students jot down five ideas for discussion, or questions that the film raised in their minds.

Have students record all the film techniques used in the film. Have them discuss each technique and explain its effectiveness.

Have students create a T-chart to record all the negative and positive aspects of GM foods.

Have students use a Venn diagram to compare the inputs in growing a GM crop to a crop grown organically.

Post-Viewing Activities

Show the students their quotations from the Pre-Viewing Activity and see if their opinions were changed, altered or enhanced by the film.

Assign some of the questions and quotations from the Extension Activities section of this guide for homework to be taken up the next day in class. Check for completion.

Have students complete an exit note (a single small sheet of paper with one phrase or idea written on it) that demonstrates one thing they have learned, felt or decided as a result of watching the film.

Discuss with students their initial reactions to the various scenes and situations addressed in the film.

Have students research another region or country that has banned GMOs. Have students share their findings as a class.

Have students create a one-page newsletter discussing the implications of GMOs.

Have students visit their local supermarket and record all the foods they can find that are labelled as GMO free. Greenpeace has an online shopping guide, *How to Avoid Genetically Engineered Food*, that may help them on their visit (http://gmoguide.greenpeace.ca/shoppers_guide.pdf).

Have a class discussion about labelling GM foods. Just Label It provides some information on the topic (<http://justlabelit.org/>).

Have a class discussion about the claim of GM crops feeding the world and its failure to increase crop yields in the long-term. The Union of Concerned Scientists released a report titled *Failure to Yield* evaluating the performance of GM crops (http://www.ucsusa.org/food_and_agriculture/our-failing-food-system/genetic-engineering/failure-to-yield.html) that will help with the discussion. Also have a class discussion on food dumping as part of the issue. Oxfam has a report discussing the issue (http://www.oxfam.org/sites/www.oxfam.org/files/bp71_food_aid.pdf).

Have students conduct online research on a food company and create a report card on their contributions in maintaining GMO-free ingredients. Have them record their policies and regulations for their individual company. Share the findings as a class.

Have a class debate on whether GM food crops should be allowed to be grown in Canada. Split the class into two groups. Assign one side as supportive on the topic and the other against the topic. Allow one day for preparation and one day for the debate. Students will write a personal response on the debate, addressing both sides of the issue and their personal opinion. Some of the subtopics that could be researched are safety (toxins), pesticide use, health impacts (long-term effects, allergens), labelling, nutrition, farmers (patents, costs), super weeds and the environment. The assignment and rubric, titled "GMO Debate," are found on the following pages..

WEBSITES AND ONLINE RESOURCES

About the Film

<http://www.gmofilm.com/>

Facebook: <https://www.facebook.com/gmoomgfilm>

Twitter: <https://twitter.com/gmoomgfilm>

Additional Resources

Canadian Biotechnology Action Network: The group's aim is to promote food sovereignty and democratic decision-making on science and technology issues in order to protect the integrity of the environment, health, food and livelihoods of people in Canada.

<http://www.cban.ca>

Food and Water Watch: The group works to ensure the food, water and fish humans consume are safe, accessible and sustainably produced.

<http://www.foodandwaterwatch.org/food/genetically-engineered-foods/>

GMO Journal: The online journal explores the many facets of the debate surrounding genetically modified foods and includes many articles on the topic.

<http://www.gmo-journal.com>

GMO Seralini: The scientific study on the health effects of GMOs on rats was highlighted in the film. Professor Seralini and his team provide information from the study.

<http://www.gmoseralini.org>

Greenpeace: A page on their website is dedicated to genetic engineering. News articles, fact sheets, publications and case studies are included.

<http://www.greenpeace.org/international/en/campaigns/agriculture/problem/genetic-engineering/>

Health Canada: The federal department is responsible for helping Canadians maintain and improve their health, while respecting individual choices and circumstances. Their webpage clearly outlines the government's position on GM foods and addresses many of the concerns brought up in the film.

<http://www.hc-sc.gc.ca/fn-an/gmf-agm/index-eng.php>

Kids Right to Know: Founded by Rachel Parent, a 15-year-old Canadian food activist fighting for GMO labelling. The site includes information on GMOs, including facts, definitions, myths and truths and compares organic and conventional farming.

<http://www.kidsrighttoknow.com>

Monsanto: The agricultural company's website includes a section addressing common concerns about the safety of GMOs.

<http://www.monsanto.com/newsviews/pages/food-safety.aspx>

National Geographic: An article from January 11, 2014, titled "The GMO Labeling Battle Is Heating Up—Here's Why" by Laura Parker, discusses the labelling debate and also highlights a change for Cheerios, now a GMO-free product.

<http://news.nationalgeographic.com/news/2014/01/140111-genetically-modified-organisms-gmo-food-label-cheerios-nutrition-science/>

Seeds of Diversity: The Canadian volunteer organization conserves the biodiversity and traditional knowledge of food crops and garden plants.

<http://www.seeds.ca>

The Non-GMO Project: The project is a voluntary non-GMO certification system to facilitate consumer information.

<http://www.nongmoproject.org/>

World Health Organization: WHO is the directing and coordinating authority for health within the United Nations. Information about biotechnology and food safety is included in their general information on the topic.

<http://www.who.int/foodsafety/biotech/en/>

Various Links for Lesson Plan Ideas, Media Awareness, Critical Literacy and Documentary Films

Center for Media Literacy: A US website which provides resources for making, understanding and criticizing media.

<http://www.medialit.org>

Hot Docs' Looking at Documentaries: A teaching guide that sets out questions designed to help teachers include the study of documentary film in their curriculum. Free PDF download.

http://www.hotdocs.ca/youth/docs_for_schools_monthly/

Media Awareness: A Canadian non-profit media education and Internet literacy resource library.

<http://www.media-awareness.ca>

NFB: Valuable education resources for the classroom.

<http://www.nfb.ca>

EXTENSION ACTIVITIES

Additional Questions for Pre-Viewing or Post-Viewing Activities

1.

Had you heard about GM foods before the film? Why is the general public uninformed on the topic?

What is the controversy over GMOs? Why is there confusion on whether they are safe or not?

Why did the Haitian farmers burn their seeds donated from Monsanto? What does it symbolize?

How are seeds sacred to farmers? What have the seeds from Monsanto changed in the agricultural sector? Is it for the better or for the worse?

The filmmaker's sons have "GMO goggles" to locate GMOs. But how can the public actually find the products that are GMO-free? Explain how companies claim to be "natural"? How can we see through the façade?

Do you believe the governmental organizations that assert the safety of GMOs or the filmmaker's wariness on the topic?

Do you care if you consume GMOs? Do you think it affects your health? Do you think Prof. Seralini's research is valid? Should more research be done on GMOs' effects to human health? Explain.

Is labelling GMOs important? Why is there a resistance in the food industry? Explain.

Should nature be allowed to be patented? Is there a limit on what can be owned? Explain.

The Rodale Institute claims that over a 30-year study, organic crops yielded similarly to GM crops. Do you eat organic foods? Why or why not? What are the benefits in eating organically?

QUOTATIONS FROM THE FILM TO EXPLORE

1. *"We think that's a normal reaction for a capitalistic enterprise, because the objective of Monsanto is to make money."* Chavannes Jean-Baptiste, leader, Peasant Movement of Papaye
2. *"They say they have a gift to give you. It's a gift to kill you. It's a gift to destroy you, destroy who you are. Because for us, seed is something sacred. It's a natural thing."* Haitian farmer
3. *"At a certain point, you have to trust our regulators and our scientists. I think they're good people. And we do have a safe and abundant food supply."* Bill Beam, conventional farmer
4. *"I don't know if GMO grains are better or worse for you, or healthy or not healthy. I don't know or know anybody who does know, but that's not the point to me. These people are trying to patent nature, they're trying to patent all of nature, really, they own it."* Gene Logsdon, author, *The Contrary Farmer*
5. *"What we're doing is trading short-term production for long-term unsustainability, and that's just a trade-off that we can't afford to make for future generations. It's unfair. We're not suggesting we go backwards. We're suggesting we take that technology that makes sense, but really discard the technology that's not in our best interest as a society."* Jeff Moyer, farm director, Rodale Institute
6. *"Of course they should be labelled. I don't know what the impact of consumption of genetically engineered food does to the human body, I don't know. One thing, for sure—precautionary principle would dictate that you should give people choice of whether or not they are consuming these products. And if people chose to consume genetically modified food, they should do so knowingly."* Dennis Kucinich, Ohio, House of Representatives
7. *"There's something extremely wrong when a government becomes captive to one industry and pushes nonrenewable, debt-creating seeds that destroy biodiversity, independence and self-reliance."* Vandana Shiva, founder, Research Foundation for Science, Technology and Ecology
8. *"One of the things we have learned in the last five years is that we have seemingly powerful institutions that turn out to be extremely vulnerable and brittle. Our banks and our financial collapse were too big to fail. Our energy system and agricultural systems are just as top heavy and just as vulnerable, and what that means is not as with the banks, where we should just bail them out because they're too big to fail, it means that anything that's too big to fail is too big. We need to build down this system, spread it out, but make it more stable, and I think that's the key."* Bill McKibben, founder, 350.org
9. *"We do not know the effects of these grand experiments that are being visited upon humanity by the purveyors of genetically modified organisms. If, in fact, we are what we eat, then we certainly should be mindful of the nature of the products we are consuming so we will know what we will become."* Dennis Kucinich, Ohio, House of Representatives
10. *"If nobody buys them, then the company would just give up and not do it anymore, not give food to those stores and then there won't be any more of that food anymore."* Finn Seifert, the filmmaker's seven-year-old son
11. *"In the defence of the seeds of life, the greatest symbol we can offer is to burn the seeds, which symbolize money, symbolize death. In defence, to defend the seeds of the peasants is to defend the seeds of life."* Chavannes Jean-Baptiste, leader, Peasant Movement of Papaye

CULMINATING ACTIVITY: GMO DEBATE

Name: _____ Date: _____ Mark: _____ /20 (see rubric)

Circle your side: For Against

Your sub-topic to research: _____

You will be debating whether GMO food crops should be allowed to be grown in Canada. You are encouraged to use case examples brought up in the film, but should also use other case studies from your regional and local communities.

Group tasks:

- Outline the topics you want to bring up during the debate with a speaker list.
- There should be about six speakers and four rebutters for each side.
- Each speakers will bring their research with them to the debate
- Rebutters need to predict what the other side will bring up and bring research to counter their points.

Format of the debate: (to be presented on: _____)

1. For GMOs speakers: opening statement, between one and two minutes each speaker (Against listens)
2. Against GMOs speakers: opening statement, between one and two minutes each speaker (For listens)
3. Congregate for one minute to plan for rebuttal
4. For rebuttal
5. Against rebuttal
6. Speakers list (if you want to speak, put your hand up and the teacher will keep a running speakers list)
7. Closing statements (one minute each)

As a final assessment for the debate, you will use your research and your notes from the debate and type a double-spaced report of between one and two pages, introduce the topic, address both sides of the debate and conclude with your opinion.

Due: _____.

Make sure to attach your research for your topic to your report.

ASSIGNMENT RUBRIC: GMO DEBATE

Knowledge/Understanding

Concepts	2.5 2.9	3.0 3.4	3.5 3.9	4.0 5	
Clear understanding of issues	Limited success in use of terms and concepts	Some success in use of terms and concepts	Moderate success in use of terms and concepts	Employs terms and concepts with a high degree of success	/5

Thinking/Inquiry

Research	2.5 2.9	3.0 3.4	3.5 3.9	4.0 5	
Collection of Information	Information indicates limited research skills and does not include sufficient research on own topic	Information indicates moderately effective research skills on own topic	Information indicates effective research skills with most issues examined and considered	Information indicates excellent research skills with all issues thoroughly examined and considered	/5

Application

Report	2.5 2.9	3.0 3.4	3.5 3.9	4.0 5	
Accounts in writing both sides of the debate as well as a well-supported opinion; grammar; 1-2 typed pages	Communicates in writing with limited effectiveness	Communicates in writing with some effectiveness	Communicates in writing with considerable effectiveness	Communicates in writing with a high degree of effectiveness	/5

Communication

Debate	2.5 2.9	3.0 3.4	3.5 3.9	4.0 5	
Overall communication skills are clear and to the point, well-supported points; emphasis, clarity and confidence	Overall points are limited/vague; hard to understand, very little emphasis	Points are somewhat effective, with a few details; had some confidence in speech	Points and overall aim is clear; some points supported	Excellent suggestions, and debating skills; research is used in speech	/5

Comments:

Total: _____/20

EXAMPLES OF CURRICULUM EXPECTATIONS

COURSE	OVERALL EXPECTATIONS
Grade 7 Geography	<ul style="list-style-type: none"> Inquiry: use the geographic inquiry process to investigate the impact of natural events and/or human activities that change the physical environment, exploring the impact from a geographic perspective.
Grade 7 Science	<ul style="list-style-type: none"> Assess the impacts of human activities and technologies on the environment, and evaluate ways of controlling these impacts.
Grade 8 Geography	<ul style="list-style-type: none"> Application: analyze some significant interrelationships between Earth's physical features and processes and human settlement patterns, and some ways in which the physical environment and issues of sustainability may affect settlement in the future.
Grade 8 Science	<ul style="list-style-type: none"> Assess the impact of cell biology on individuals, society and the environment.
Grade 9–12 English	<ul style="list-style-type: none"> Developing and Organizing Content: generate, gather and organize ideas and information to write for an intended purpose and audience. Understanding Media Forms, Conventions and Techniques: identify some media forms and explain how the conventions and techniques associated with them are used to create meaning. Understanding Media Texts: demonstrate an understanding of a variety of media texts.
Grade 9 Geography	<ul style="list-style-type: none"> The Physical Environment and Human Activities: analyze various interactions between physical processes, phenomena and events and human activities in Canada. The Sustainability of Human Systems: analyze issues relating to the sustainability of human systems in Canada.
Grade 9 Science	<ul style="list-style-type: none"> Investigate factors related to human activity that affect terrestrial and aquatic ecosystems, and explain how they affect the sustainability of these ecosystems.
Grade 10 Civics	<ul style="list-style-type: none"> Inclusion and Participation: assess ways in which people express their perspectives on issues of civic importance and how various perspectives, beliefs and values are recognized and represented in communities in Canada.
Grade 11 Science	<ul style="list-style-type: none"> Analyze some of the social, ethical and legal issues associated with genetic research and biotechnology.
Grade 12 Family Studies	<ul style="list-style-type: none"> Food Security: demonstrate an understanding of various factors involved in achieving and maintaining food security. Food Production and Supply: demonstrate an understanding of various factors that affect food production and supply. Food Production and the Environment: demonstrate an understanding of the impact of food production on the environment.

Grade 12 Geography	<ul style="list-style-type: none"> Analyze geographic issues that arise from the impact of human activities on the environment in different regions of the world. Explain significant short-term and long-term effects of human activity on the natural environment. Analyze and evaluate interrelationships among the environment, the economy and society. Evaluate a variety of approaches to resolving environmental and resource management concerns on a local, regional and national scale.
Grade 12 Politics	<ul style="list-style-type: none"> Explain the rights and responsibilities of individual citizens, groups and states in the international community.
Grade 12 Science	<ul style="list-style-type: none"> Analyze some of the social, ethical and legal issues associated with genetic research and biotechnology. Analyze a variety of social, ethical and legal issues related to applications of biotechnology in the health, agricultural or environmental sector. Investigate various techniques used in biotechnology and how they are applied in the food industry and the health and agricultural sectors. Demonstrate an understanding of biological processes related to biotechnology and of applications of biotechnology in the health, agricultural and environmental sectors.

The Overall Expectations listed above are from the *Ontario Curriculum*. Complete course descriptions, including all Overall and Specific Expectations, can be found at: <http://www.edu.gov.on.ca/eng/teachers/curriculum.html>