



STUDY GUIDE

WHY I LEFT GREENPEACE

KEY TERMS:

mission
truth

agenda
radicalized

fear-mongering

NOTE-TAKING COLUMN: Complete this section during the video. Include definitions and key terms.

CUE COLUMN: Complete this section after the video.

What happened to the once noble mission of the environmental group?

Why was Greenpeace so successful in its early years?

What is the first lesson of ecology?

What were the problems associated with the new direction that Greenpeace took?

Why does Greenpeace oppose Golden Rice?

DISCUSSION & REVIEW QUESTIONS:

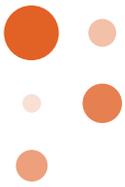
- Dr. Moore shares with us that for Greenpeace, “The mission, once noble, had become corrupted – political agendas and fear mongering trumped science and truth.” What factors do you think were significant in changing the values of the organization? Do you think their success had a role in ruining the group? Why or why not? Do you think that it’s inevitable that a group like this will become politicized? Why or why not?
- Later, Dr. Moore explains that, “I found myself the only one of six international directors with a formal science background. We were now tackling subjects that involved complex issues of toxicology, chemistry, and human health.” Do you think that the lack of formal science training was a problem for understanding policy direction and action within Greenpeace? Why or why not? How do you think that this lack of legitimate scientists played into the politics of the organization?
- Dr. Moore points out that, “I had noticed something else. As we grew into an international organization with over \$100 million a year coming in, a big change in attitude had occurred. The “peace” in Greenpeace had faded away. Only the “green” part seemed to matter now.” Why do you think this was the case? What do you think the relationship between the impressive budget and changing values of the organization were? How do you think the money affected the politics of the organization?
- In the video, Dr. Moore laments that, “Humans, to use Greenpeace language, had become “the enemies of the Earth.” Putting an end to industrial growth and banning many useful technologies and chemicals became common themes of the movement. Science and logic no longer held sway. Sensationalism, misinformation, and fear were what we used to promote our campaigns.” Where do you think the notion of humans being Earth enemies came from? How do you think that progressive ideology infested Greenpeace and replaced sensible science?
- Dr. Moore explains that, in terms of Greenpeace campaigning against technologies that can help people on a grand scale, that “The ones who suffer are those in developing countries, people we’re presumably trying to help.” Why do you think that donors are willing to support an organization that purposefully won’t help dying children? Considering how backwards Greenpeace has become, would you have left too if you were Dr. Moore? Why or why not?

EXTEND THE LEARNING:

CASE STUDY: Golden Rice

INSTRUCTIONS: Read the article “In A Grain Of Golden Rice, A World Of Controversy Over GMO Foods,” then answer the questions that follow.

- What is golden rice? How is golden rice meant to help people? Who is it intended to help, primarily?
- What arguments do the opponents of golden rice advance? Do you think their arguments have any merit? Why or why not? The opponents of golden rice and other genetically modified food tend to focus on the profits of the companies that produce genetically modified food as being one of the primary reasons for being against it. Why do you think that these opponents equate profits with bad intentions? If the product works well, and people are helped by it, then why does it matter what the intention of the company is? Don't you think that poor children becoming better nourished and companies making a profit at the same time is a win-win situation? Why or why not?
- Clearly, the ETC Group is opposed to golden rice because they stand to lose business from it, but what do you think is the real reason that Greenpeace is opposed to golden rice?



QUIZ

WHY I LEFT GREENPEACE

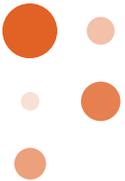
1. How many of Greenpeace's international directors had a formal science background?
 - a. 1
 - b. 3
 - c. 5
 - d. 6

2. Greenpeace has always retained a healthy balance between helping humans and helping the environment.
 - a. True
 - b. False

3. What was the final straw that made Patrick Moore decide to leave Greenpeace?
 - a. His fellow directors decided to campaign against US hydrogen bomb testing in Alaska.
 - b. His fellow directors decided to confront Russian and Japanese whalers.
 - c. His fellow directors decided to tackle subjects involving complex issues of human health.
 - d. His fellow directors decided to work to ban the element chlorine worldwide.

4. Which of the following did Greenpeace begin to use to promote their campaigns?
 - a. Sensationalism
 - b. Misinformation
 - c. Fear
 - d. All of the above.

5. If Greenpeace's anti-chlorine campaign succeeded, who would suffer?
 - a. Greenpeace's donors.
 - b. Those in industrialized nations.
 - c. Those in developing countries.
 - d. Those living in islands.



QUIZ - ANSWER KEY

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<http://www.npr.org/sections/thesalt/2013/03/07/173611461/in-a-grain-of-golden-rice-a-world-of-controversy-over-gmo-foods>

In A Grain Of Golden Rice, A World Of Controversy Over GMO Foods

Updated March 8, 2013 10:44 AM ET



[Dan Charles](#)



Genetically modified to be enriched with beta-carotene, golden rice grains (left) are a deep yellow. At right, white rice grains. *Isagani Serrano/International Rice Research Institute*

There's a kind of rice growing in some test plots in the Philippines that's unlike any rice ever seen before. It's yellow. Its [backers](#) call it "[golden rice](#)." It's been genetically modified so that it contains beta-carotene, the source of vitamin A.

Millions of people in Asia and Africa don't get enough of this vital nutrient, so this rice has become the symbol of an idea: that genetically engineered crops can be a tool to improve the lives of the poor.

It's a statement that rouses emotions and sets off fierce arguments. There's a raging, global debate about such crops.

But before we get to that debate, and the role that golden rice plays in it, let's travel back in time to golden rice's origins.

It began with a conversation in 1984.

The science of biotechnology was in its infancy at this point. There were no genetically engineered crops yet. Scientists were just figuring out how to find genes and move them between different organisms.

Some people at the [Rockefeller Foundation](#) thought that these techniques might be useful for giving farmers in poor countries a bigger harvest.

So they set up a meeting at the [International Rice Research Institute](#) (IRRI), in the Philippines, to talk about this.

[Gary Toenniessen](#), who was in charge of the foundation's biotechnology program at the time, says that a lot of people at this meeting were very skeptical about biotechnology. They were plant breeders, masters of the traditional way to improve crops.

One evening, after the formal sessions, "a group of these breeders were sitting around at the guesthouse at IRRI, having a beer or two," says Toenniessen. After listening to their skepticism for a while, Toenniessen spoke up. If this technology did actually pan out, he said, and you could put any gene you wanted into rice, which one would you pick? "What's your favorite gene?"

They went around the room. Breeders talked about genes for resisting disease or surviving droughts.

They came to a breeder named [Peter Jennings](#), a legendary figure in these circles. He'd created perhaps the most famous variety of rice in history, called [IR 8](#), which launched the so-called Green Revolution in rice-growing countries of Asia in the 1960s.

"Yellow endosperm," said Jennings. (The endosperm of a grain of rice or wheat is the main part that's eaten.)

"That kind of took everybody by surprise. It certainly took me by surprise. So I said, 'Why?' " Toenniessen recalls.

Jennings explained that the color yellow signals the presence of beta-carotene — the source of vitamin A. Yellow kinds of corn or sorghum exist naturally, and for years, Jennings said, he had been looking for similar varieties of rice. Regular white rice doesn't provide this vital nutrient, and it's a big problem.

"When children are weaned, they're often weaned on a rice gruel. And if they don't get any beta-carotene or vitamin A during that period, they can be harmed for the rest of their lives," says Toenniessen.

Toenniessen was persuaded, and the Rockefeller Foundation started a program aimed at creating, through technology, what Jennings had not been able to find in nature.

A global network of scientists at nonprofit research institutes started working on the problem.

The first real breakthrough came in 1999. [Scientists](#) in Switzerland inserted two genes into rice that switched on production of beta-carotene. A few years later, other researchers created an even [better version](#).

A single bowl of this new golden rice can [supply](#) 60 percent of a child's daily requirement of vitamin A.

"It's a great product. And it's beautiful! It looks just like saffron rice," says Toenniessen, who's now a managing director at the Rockefeller Foundation.



Golden rice plants at a confined field trial in 2010. *Courtesy of the International Rice Research Institute*

Others, though, don't find it beautiful at all.

For instance, consider what happened just a few months ago. Some U.S.-funded researchers published the results of a nutritional [study](#) showing that people's bodies easily absorb the beta-carotene in golden rice. They'd carried out that study among children in China.

The result seemed like great news. But the environmental group Greenpeace immediately called it a [scandal](#).

"People are angry, really furious about these tests, using Chinese children as guinea pigs," says Wang Jing, a campaigner for Greenpeace in China.

The Chinese government [reacted](#) quickly. It punished three Chinese co-authors of the study, removing them from their jobs.

In a [report](#) on the case, Chinese authorities say that the researchers didn't get all the approvals they needed before carrying out the study. Also, the researchers told the children, and their parents, that this was a special kind of rice high in beta-carotene, but they didn't always say it was genetically modified.

"They actually hid the fact that golden rice is a genetically modified crop," says Wang.

For some people, this makes all the difference in the world.

This is where golden rice gets caught up in the bigger argument over genetically engineered crops — specifically, the argument over who benefits from them.

[Neth Daño](#), who works in the Philippines for the [ETC Group](#), an advocate on behalf of small farmers, says the main purpose of genetically modifying crops has not been to help people; it's been driven by profit.

"A handful of corporations in developing countries has reaped billions in profits selling genetically modified seeds and proprietary herbicides," she says. Yet those companies have always claimed that this technology would benefit the poor. "The poor have always been at the center of each and every assertion about the importance of genetically modified organisms to mankind."

So this is the real significance of golden rice, she says. It gives biotech companies a chance to say, "See, biotechnology *is* good for the poor!"

"Some proponents are already announcing that the debate is over, that the golden rice product is the clincher."

Don't misunderstand me, Daño says: Golden rice is not purely public relations. It is, indeed, supposed to help malnourished people — although she doesn't think it's a very good way to help. She thinks it will be more expensive and less effective than traditional nutrition programs.

This rice is mainly going to help the image of biotechnology, she says.

This mixture of motives — helping people and promoting biotechnology — also shows up in the biography of the man who's now leading the golden rice effort.



Dr. Gerard Barry, IRRRI's golden rice project leader, inspects golden rice in the screen house. *Bill Sta. Clara/International Rice Research Institute*

[Gerard Barry](#), a native of Ireland, spent more than 20 years in St. Louis working for Monsanto, the company that pioneered genetically engineered crops.

He's listed as first inventor on some of Monsanto's most valuable [patents](#). He found the gene that made crops immune to the weedkiller Roundup. That gene is now in soybeans, corn and cotton grown on hundreds of millions of acres.

But along the way, Barry also got interested in rice. "It was very exciting. It was probably my favorite crop to work on," he says. "Because you got to meet really passionate people. Rice is something that's vital to large numbers of people. I mean, a couple of billion people eat it."

Ten years ago, Barry left the corporate world and moved to the nonprofit International Rice Research Institute in the Philippines — the place where the idea of golden rice was born.

His job is now to shepherd it down the home stretch to the finish line.

Part of the job involves old-fashioned plant breeding to transfer the beta-carotene genes into rice varieties that farmers like to grow.

But before farmers can get their hands on golden rice, government regulators in each country need to agree that it's safe.

Later this year, the network of golden rice researchers will apply for approval in the Philippines. After that, they'll do the same in Bangladesh.

Yet that's only the first step. They'll have to roll out a marketing campaign on behalf of golden rice, and the campaign has to reach the poorest people in the most remote villages.

"Golden rice will be good for everybody, but some people need it more," Barry says. "Our job is to make sure that [those] people have access to it, understand the value of it, and ask for it."

This will be the final test of that 30-year-old brainstorm — the idea that genetically altered rice actually could be a cheap, self-multiplying source of this vital nutrient.