

Rachel Carson, and The Banning of DDT
Phoebe Osadchey Brown
Senior Division
Historical Paper
Word Count:2073

“*DDT Is Good For Me-e-e!!*”-1947 advertisement, (Collectors)

Dichlorodiphenyltrichloroethane, also known as DDT was created in 1939 and was quickly spread around the world. The destructive chemical was used thoroughly through World War II to kill every form of insect from cockroaches to lice. It was thought to be the greatest invention until suddenly children were getting sick, animals were dying and both were having birth defects. In 1962 Rachel Carson realized the tragic consequences that pesticides could have on the Earth, and specifically how the chemical DDT could make species go extinct, cause cancer in humans and have long term effects. To help get the message to people she wrote a book called *Silent Spring*. The book became a best-seller and it eventually led to a worldwide ban put on DDT. Rachel Carson was the leading activist to stop the use of DDT, which helped preserve the biodiversity on our planet. Without Rachel Carson, our world would now be a very different place.

Dichlorodiphenyltrichloroethane was created by Paul Hermann Müller in 1939. Its main use was to get rid of diseases like malaria, typhus, and yellow fever by killing insects that spread these diseases. The chemical was first used by the Allies in World War II to help combat lice born typhus. “Hundreds of thousands U.S. soldiers were issued DDT powder and told to sprinkle it in their sleeping bags. Entire towns in Italy were dusted with DDT from the air to control lice. DDT was sprayed heavily on South Pacific islands to control mosquitoes”(Ganzel). While DDT helped the soldiers get rid of lice and bugs. DDT was being hailed as the answer to many people’s problems, solving diseases and pesky bugs. The horrors of what DDT could do to living beings like humans and animals was soon to be discovered and analyzed by Rachel Carson.

The initial effects of being exposed to DDT are a prickling sensation in the mouth, dizziness, nausea, headache, lethargy, incoordination, vomiting, fatigue, and tremors. With long term exposure to DDT, the chemical can be absorbed through the skin and accumulates in the fatty tissue. The National Pesticide Center says, when people go through a period of starvation, the DDT will break down and get released into the bloodstream, the chemicals then exit the body through urine, feces, or breast milk. Exiting through breast milk exposes a young child to the chemicals which could be detrimental to their health. DDT affects the nervous system by interfering with normal nerve impulses. Humans also can be exposed to DDT by ingesting produce and meats. Farmers used to spray all their fields with the chemical to help get rid of all unwanted bugs, helping with the mass production of produce. The book *Silent Spring*, written by Rachel Carson describes all the different ways that DDT can be ingested and absorbed:

DDT in powder form is not readily absorbed through the skin. It does penetrate readily when it is dissolved in oil, as it usually is. If it is swallowed, it is absorbed slowly through the digestive tract; it may also be absorbed through the lungs. Once DDT, which, like all the chlorinated hydrocarbons, is soluble in fat, has entered the body, it is stored largely in organs rich in fatty substances, such as the adrenals, the testes, and the thyroid, and relatively large amounts are also deposited in the liver, the kidneys, and the fat of the large, protective mesentery, the tissue that enfolds the intestines and attaches them to the body wall (*Silent Spring*-1).

DDT is a complicated chemical that can cause extreme damage to your body. Being able to stay stored in fatty tissues and organs should raise warnings to people that the chemical is probably

not the best to be around. Rachel Carson decided that this chemical was dangerous to our planet that she dedicated a large amount of her time to publicize the effects that the chemical has.

Not only did DDT adversely affect humans, but it had affected other organisms. These effects can not be undone. Not knowing the consequences of DDT was detrimental to society: “Ground squirrels were almost wiped out in the Sheldon region; their bodies were found in attitudes characteristic of violent death by poisoning. The fox squirrel had been a relatively common animal in the town; after the spraying, it was gone”(Silent Spring II). There are many health effects that various animals including humans were experiencing, and it was time that someone realize what was happening and stand up for the environment. Rachel Carson noticed these affects and realised that DDT was not only affecting animals directly, they were also having an indirect effect. The chemicals were killing off parts of the food chain. A source states: “Pesticides can reduce insects that may be important food sources for young birds and fish, and habitat is similarly reduced when vegetation is destroyed -- a critical factor for small wildlife populations already stressed by insufficient habitat. New research continues to find other sublethal effects linked to pesticides, which could affect threatened and endangered species as well as humans”(U.S Fish). Killing different insects was taking out a piece of the food chain, making it so orgassums like birds did not have the food they needed. If they did find insects they most likely had traces of DDT on them making it so the bird now had chemicals stored in it.

Rachel Carson was the real hero here, telling the world about these horrible effects of DDT. Born on May, 27 1907 in Springdale, Pennsylvania Rachel Carson was a lover of nature and writing. “Carson became a published writer for children’s magazines by age 10”(Michals). In 1929 she graduated form Pennlive Nails college for women, she then studied at John Hopkins

University where she majored in biology. After she got her degree she went on to working for the US Bureau of Fisheries, where she remained for about 15 year. After this long stretch she decided to get back to her writing. She wrote many famous books about all the different parts of nature. One of her most famous books *The Sea Around Us* won her a national book award: “it remained on the New York Times best-seller list for a record 86 weeks, and won the National Book award for non-fiction in 1952, as well as the prestigious John Burroughs Award for nature writing among many other awards”(Rachel Carson). After winning such hefty awards, she was awarded a grant which aloud her to focus on her writings, this is when she wrote her most popular book, *Silent Spring*.

Silent Spring is a book written about the effects that DDT has on the environment. In the book Rachel Carson talks about how there is a delicate balance of nature, and the smallest amount of pesticide can cause an unbalanced which leads to many problems. The book started a ginormous environmental movement, that was unstoppable. “Chemical and agricultural spokesmen attacked both the book and its author. Yet it also galvanized ecologists, reformers, biologists, conservationists, social critics, and farmers to join in the American environmental movement”(Environment and Portal Society). The ideas that the book offered were new and frightening to people, they also created a discussion that was once pushed away into the shadows. Less than a year after the book was published, she had enough support that she testified against the use of pesticides in front of a senate subcommittee. She argued that once DDT got into the biosphere it would eventually make its way into the food chain, from bugs, to birds, to larger animals and then to children. Having DDT in the biosphere threatens the health of every organism on the planet. Even though the data that pesticides were not great for the

environment had been known for a long time, Carson was the first person to connect all the pieces and share it with the public. “Our heedless and destructive acts enter into the vast cycles of the earth and in time return to bring hazard to ourselves,” she told the subcommittee (New York Times). The public responded positively. On December 31st, 1972 the EPA put out a press release saying; The general use of the pesticide DDT will no longer be legal in the United States after today, ending nearly three decades of application during which time the once-popular chemical was used to control insect pests on crop and forest lands, around homes and gardens, and for industrial and commercial purposes.

DDT has many health problems that should raise red flags for people in the chemical industry. It’s not just that DDT cause cancer, but if a young woman is exposed to DDT before she reaches puberty, she has a five times higher chance of developing breast cancer. On top of this, DDT also is a major cause of premature births.

Longnecker analysed data on 2380 babies born in the US in the 1960s, when DDT was still widely used. He also measured the concentration of DDE, a metabolite of DDT, in blood samples taken from the mothers during pregnancy. His team found that the risk of premature birth or low birth weight rose with increasing concentrations of blood DDE. A high blood DDE concentration was more strongly linked to prematurity than maternal smoking (Young).

The fact that DDT is linked more strongly to premature births than smoking while being pregnant is a strong piece of evidence that DDT is very toxic. Premature babies are a large contributor to infant deaths. From the data it seems that insecticide (DDT) could have accounted for about 15% of infant deaths in the United States in the 1960’s (Young). In earlier decades in

the United States we had a large amount of premature births. There are still about 25 countries that DDT is still being used which concerned scientists because the same thing may be happening in them.

Rachel Carson's success of getting DDT banned was a huge triumph and a turning point on our world. Not only did it show that all pesticides had some type of negative effect on the Earth, but it also opened the public's eyes that the Earth is not invincible and that we need to take care of it. Rachel also lived through her passion, banning DDT was so important to her that even though she had cancer she was determined to help prevent other people from getting it. Rachel Carson, testified before a Senate subcommittee on pesticides.

She was 56 and dying of breast cancer. She told almost no one. She'd already survived a radical mastectomy. Her pelvis was so riddled with fractures that it was nearly impossible for her to walk to her seat at the wooden table before the Congressional panel. To hide her baldness, she wore a dark brown wig (Grizwald).

Even though she could barely sit, she still went and argued for her cause until she won. This shows true passion, and it is very inspirational to hear that there are people in this world who care so much about the environment that they do not care how much pain they are in, but they will do anything to make something they believe in happen.

Rachel Carson has been a role model for the future. Not only was she a woman, but she also was sick when she testified for the banning of DDT. She was very determined and would not stop her cause. On March 15th 2019, hundreds of children for schools all over went on strike and left school. Their message was "Why study if there is no future?". In my opinion this is everyone carrying out and demonstrating Rachel Carson's fire. In a way her triumph is still

burning and empowering the younger generation to help advocate for the Earth. To stop using chemicals that kill animals and cause cancer, to stop burning fossil fuels that are warming our planet at an alarmingly fast rate, to stop producing thousands of pounds of single use plastics that are clogging our oceans and sea life.

Rachel Carson played an enormous role in the banning of DDT. Without her we may not be here today. She demonstrated so much determination and provide hope for future generations. While people are still experiencing the tragic effects of DDT, and some countries still to this day use the chemical, we now have the resources to provide them with the facts.

Works Cited

Primary Sources

Carson, Rachel. "Silent Spring." *New Yorker*, 27 Aug. 1955,

www.newyorker.com/magazine/1955/08/27/the-edge-of-the-sea-the-rocky-shores.

Accessed 13 Feb. 2019. This primary source is a website that contains different writings of Rachel Carson. I did not directly sight this source because the writings were not directly related to my topic. The website helped me to understand the different topics that Rachel Carson has written about. It demonstrated a different style of writing then which *Silent Spring* was written in.

---. "Silent Spring-1." *The New Yorker*, 16 June 1962,

www.newyorker.com/magazine/1962/06/16/silent-spring-part-1. Accessed 13 Feb. 2019.

This primary source is a website that was written by Rachel Carson. It contains various information on DDT and explains in detail the effects that the chemical was having on the Earth and how it would worsen if we did not stop using the chemical. I did not directly site this source but it helped me to understand more about the effects that DDT was having on our Earth.

---. "Silent Spring-2." *The New Yorker*, 23 June 1962,

www.newyorker.com/magazine/1962/06/23/silent-spring-part-2. Accessed 13 Feb. 2019.

This primary source is a website that explains in all the different scenarios that DDT was being used. The article does into depth about all the different effects that animals were experiencing from DDT. I directly sited this source to help show the reader how bad all the effects were of the chemical. This quote helps me develop a strong argument about

why banning DDT was a large triumph. The article helped me understand all of the effects that the chemical was causing and how in a decade there could be no more animals on the Earth.

---. "Silent Spring-3." *The New Yorker*, 30 June 1962,

www.newyorker.com/magazine/1962/06/30/silent-spring-part-3. Accessed 13 Feb. 2019.

This primary source is a website containing Rachel Carson's work. The source talks about how DDT affects animals and humans bodies. This source helped me to understand how DDT was directly damaging our cells and organs. It made it easy to understand why DDT was banned, it provided strong arguments that was backed up with data. I did not directly quote this source.

Collectors Weekly. 22 Aug. 2012,

www.collectorsweekly.com/articles/the-top-10-most-dangerous-ads/. Accessed 23 Mar.

2019. This primary source is a picture of a poster saying "DDT Is Good For Me-e-e!".

This message I directly quoted because it shows how no one was aware of the effects that DDT could have. Everyone was too busy celebrating that they were killing all the bugs to realize that having no bugs would be a problem.

EPA. 5 Aug. 2016, archive.epa.gov/epa/aboutepa/ddt-ban-takes-effect.html. Accessed 23 Mar.

2019. This primary source is a press release that the EPA put out talking about the ban of DDT. It talks about why the chemical was banned and how it was going to affect people and the environment. I directly quoted this article to show how people were feeling about the ban. This source helped me to understand how people were feeling about DDT as a whole.

Lepore, Jill. "The Right Way to Remember Rachel Carson." *The New Yorker*, 26 Mar. 2018, www.newyorker.com/magazine/2018/03/26/the-right-way-to-remember-rachel-carson. Accessed 13 Feb. 2019. This is a primary source because it is a bundle of quotes from Carson from different books that she wrote. While there is some analyzation of the quotes, it is not the main point of the article. The article is composed of different quotes from different books that help how she was different from most scientists in her day. I used this source to help me get an understanding of who she was as a person. I did not directly quote this article

Rachel Carson. www.rachelcarson.org/SeaAroundUs.aspx. Accessed 17 Mar. 2019. In this primary source, it explains about other books that Rachel Carson has written and how they relate to *Silent Spring*. I directly quoted this source to help me provide evidence that Rachel Carson won different awards for her writing. The source helped me to provide a more historical point of view to my paper.

Rosenberg, Tina. "What the World Needs Now Is DDT." *New York Times*, 25 Apr. 2004, www.nytimes.com/2004/04/11/magazine/what-the-world-needs-now-is-ddt.html. Accessed 4 Mar. 2019. This primary source talks about all the positive effects of DDT. The article tells a story of when DDT was thought to be safe and all the problems it seemed to fix. I did not directly site this source.

Secondary Sources

Bate, Roger. "The Rise, Fall, Rise, and Imminent Fall of DDT." *American Enterprise Institute*, 5 Nov. 2007, www.aei.org/publication/the-rise-fall-rise-and-imminent-fall-of-ddt/.

Accessed 4 Mar. 2019. This secondary source is a website that explains how DDT was used in the war. I did not directly site this source, but it helped me to understand why so many people were using DDT. The article primarily discusses how it benefited the war and helped me develop and find all the ways that DDT was used for.

Environment and portal Society. "Silent Spring." *Environment and Portal Society*, www.environmentandsociety.org/mml/silent-spring. Accessed 10 Mar. 2019. This secondary source is a website that talks about Rachel Carson and the book that she wrote, *Silent Spring*. I did not directly quote this source, but it provided me background information of Rachel Carson and her drive to educate the public on DDT. The source helped me understand the personal reasons of why Silent Spring was written.

Ganzel, Bill. "Wessets." *The Chemical Age Dawns in Agriculture*, livinghistoryfarm.org/farminginthe40s/pests_01.html. Accessed 15 Feb. 2019. In this secondary source, the author talks about the effect that DDT has on the world. It explains what it was used for in the war. I directly quoted the source to help add in times in history where DDT was used. It helped me support my points of how DDT was used without a care in the world.

Grizwald, Eliza. "How 'Silent Spring' Ignited the Environmental Movement." *The New Yorker*, 21 Sept. 2012, www.nytimes.com/2012/09/23/magazine/how-silent-spring-ignited-the-environmental-movement.html. Accessed 17 Mar. 2019. In this primary source written by Rachel Carson, was used to help me develop a general theme in my paper. I directly quoted the website

to give examples of how DDT was affecting the Earth and no one was noticing. The website explained all the different side effects that DDT was creating.

Michaels, Debra, editor. "Rachel Carson." *National Women's History Museum*, 2015, www.womenshistory.org/education-resources/biographies/rachel-carson. Accessed 12 Feb. 2019. This primary source is a short biography of Rachel Carson, where we learned about her life. The article talks about how she became interested in nature. As a young woman, she majored in zoology and later used her studies to write books. I used this source as a way to learn about the basics of her life. It supported me in my writing by giving me a good place to gather information from and generate new questions. I did not directly site this source.

National Pesticide Center. "DDT." *National Pesticide Center*, 1999, npic.orst.edu/factsheets/ddtgen.pdf. Accessed 18 Feb. 2019. This secondary source explains the effect of DDT. It talks about how the chemical effect different animals and humans. This source helped me understand the basic and complex effects of the chemical. I directly quoted the article to provide my essay with facts.

New York Times. 21 Sept. 2012, www.nytimes.com/2012/09/23/magazine/how-silent-spring-ignited-the-environmental-movement.html. Accessed 20 Feb. 2019. This secondary source tells us about the effect that *Silent Spring* written by Rachel Carson made on the legislator. When about 2 million copies of the book were sold, people started to realize the long term effects of DDT. I used this source to help develop an understanding of how much of an effect Rachel

Carson had on the public. I directly quoted this article to help make an impression on the reader.

Pesticide Action Network. "The DDT Story." *PAN*, www.panna.org/resources/ddt-story.

Accessed 15 Feb. 2019. Pan is an organization that educates people about pesticides. In this secondary source, it talks about the effect that DDT has on the environment. I did not directly quote this article but it helped me to find reliable facts about DDT.

Science Notes. 1996, sciencenotes.ucsc.edu/9601/SeaLion/00Intro.html. Accessed 4 Mar. 2019. I used this secondary source to help me understand if there was any positive effect of DDT. It turns out that there are many positive effects of DDT but they come with a cost. This source helped me to understand why people did not want to believe that DDT was a problem. I did not directly quote this source.

Shea, Rachel Hartigan. "Q&A: Author on 'Rachel Carson and Her Sisters.'" *National Geographic*, 8 June 2014, news.nationalgeographic.com/news/2014/06/140608-rachel-carson-musil-science-silent-spring-women/. Accessed 13 Feb. 2019. Interview. In this primary source, the interviewer asked questions about how Rachel Carson was unique in the eyes of the female taking change in the world. The source talks about how Carson differed from other scientists at the time, and how that made an impact in her work. The interview touches on how Carson was crucial to the state of the environment that it is in today. I used this source to build a stronger understanding of Rachel Carson's passion. I did not directly quote this source.

U.S. Fish and Wildlife Service. www.fws.gov/mountain-prairie/feature/pesticid.html. Accessed 17 Mar. 2019. This secondary article describes how the effects of DDT causes extreme health problems to animals. It goes into detail about how bad DDT is to birds eggs, and the effects that having no birds could have on the Earth I did not directly quote this source but I used its information to create a picture of what our world could look like if we did not stop using DDT.

Young, Emma. "DDT Finally Linked to Human Health Problems." *New Scientist*, 13 July 2001, www.newscientist.com/article/dn1012-ddt-finally-linked-to-human-health-problems/. Accessed 4 Mar. 2019. In this secondary article, it describes all the health effects in detail that DDT can cause. It also gets into the effects that the chemical has on animals. I directly cited this source to help me show the extreme health effects that DDT can have on the world.