

Agent Orange: The Silent Killer

Elizabeth Damon

Junior Division

Historical Paper

Paper Length: 1835 words

The Vietnam era was fraught with conflict, and some compromises would not be reached until decades later. One such controversy was the use of Agent Orange. During the Vietnam War, the use of deleterious chemicals in Operation Ranch Hand created hazardous conditions for American soldiers leading to challenges long after the war. It was not until two decades later, that the Agent Orange Act of 1991 created a compromise that only began to recognize and repair the damage done to veterans exposed to the defoliant.

In 1947, the beginning of the Cold War, the United States foreign policy focused on providing military and economic assistance to any country fighting against the spread of communism. This declaration, known as The Truman Doctrine (“The Truman Doctrine is Announced”), led the United States to become involved in the Vietnam War. The United States supported with the Southern Vietnamese to help them gain control over the government and thwart the spread of communism (“Vietnam War”). South Vietnam and the United States fought against communist North Vietnam and Viet Cong, known as invisible fighters who quickly attacked and returned to hide in the jungle (“The Dark Shadow of Agent Orange”).

Attempting to avoid giving warning to their enemies, the Viet Cong planned sneak attacks in the forests, which made the war long and challenging. To combat this strategy, the United States devised a strategic plan, known as Operation Ranch Hand, which took place for almost nine years between 1962-1971 (Murray 24). Operation Ranch Hand used herbicides to eliminate all vegetation in the jungle, destroy all crops and food supply, and “disclose Viet Cong infiltration trails and encampments” (Lawson 50). In addition, the United States planned to limit the protection and secret networking system of the Viet Cong and destroy their shelter (Murray

24). The United States believed the Viet Cong would eventually surrender due to the lack of food and resources, therefore leading to a successful end to the war for the South Vietnamese and United States (Lawson 50).

The Dow Chemical Company and Monsanto supplied a herbicide called Agent Orange, named after the orange stripe painted on its storage containers (Gitlin 39). The agent, a colorless herbicide, was used between 1960-1971 (Gitlin 39, Derfner, Jeremy). A powerful chemical, Agent Orange, could defoliate and kill crops. Four main types of Agent Orange existed, ranked on the level of toxicity, with Agent Orange I ranking lowest toxicity, and Super Orange, ranking the highest (“Agent Orange”). The United States experimented with, but abandoned, five other herbicides: Agents Purple, Pink, Green, White, and Blue, all declared either too toxic or not toxic enough (Derfner, Jeremy).

C-123 aircrafts distributed Agent Orange. These aircrafts, a standard cargo plane equipped with a large tank, could hold thousands of gallons of Agent Orange in the cargo space. The planes had spray nozzles located under each wing and at the tail (Derfner, Jeremy). The Operation started using six aircrafts, but by 1969, it increased the fleet to twenty-five aircrafts (Murray 25). Each mission posed extreme danger as a result of the planes needing to fly low and slow, creating a risk for small arms fires, in order to successfully spray the areas (Derfner, Jeremy). Spraying occurred in Vietnam over an area about the size of Massachusetts (“The Dark Shadow of Agent Orange”).

Throughout the war, the United States sprayed more than 11 million gallons of Agent

Orange on the Vietnam countryside. Agent Orange contains the most toxic dioxin, TCDD, which unintentionally formulated into the herbicides, but emerged as a side effect of production. Along with dioxins, many other chemicals in Agent Orange used for defoliation presented significant hazards, including chemicals with cacodylic acid (“Agent Orange”). Agent Orange causes “immediate harm to the people in the sprayed areas” and “serious and lasting damage to soil and agriculture,” said Professor Arthur W. Galston (“Defoliation Plan Called Dangerous”). After only two sprayings, most forest and jungles could recover, but by the third spraying, all foliage remained dead. Therefore, the area required many sprayings and the US planes sprayed approximately 1,000 square miles of Vietnamese land in 1966 (“Defoliation Plan Called Dangerous”). More than 80% of Agent Orange covered forest lining main roads and canals (Derfner, Jeremy). The damaging herbicides destroyed tropical forests and rendered farmland useless for growing crops (Lawson 50). The chemicals continue to pollute the soil and land today creating an unstable ecosystem (“Agent Orange”).

Along with the detrimental effects on the land, Agent Orange also caused severe health problems for humans. During the war, over 2.5 million US soldiers suffered exposure to Agent Orange. After the exposure to Agent Orange in Vietnam, over 2 million cancers and other diseases occurred in both the Vietnamese people and Vietnam veterans (“Agent Orange”). Originally the United States government did not acknowledge the health risks associated with Agent Orange, but after several scientific research studies, the United States began to recognize the harm to animals and humans (“The Dark Shadow of Agent Orange”). For example, “A study in 1969 showed that dioxin in Agent Orange caused birth defects in mice” (Derfner, Jeremy). This study led to other studies focused on the US Air Force veterans’ health and the

diseases and effects of Agent Orange (Lawson 134-135). Scientific studies showed that many diseases are linked to Agent Orange, specifically, TCDD, the most toxic dioxin in Agent Orange. The article "Agent Orange" highlights the short-term risks of exposure to dioxin such as, "darkening of the skin, liver problems, severe acne-like skin disease called chloracne...type 2 diabetes, immune system dysfunction, nerve disorders, muscular dysfunction, hormone disruption, heart disease... miscarriages, spina bifida and other problems with fetal brain and nervous system development." Other studies show that Agent Orange was linked to: "Hodgkin's, non-Hodgkin's lymphoma, soft-tissue sarcoma, various respiratory cancers, multiple myeloma, porphyria cutanea tarda, chronic lymphocytic leukemia and peripheral neuropathy." (Derfner, Jeremy). The Dioxin also resulted in sterility.

The use of Agent Orange not only made people sick, but it impacted future generations. For example, a Special Forces advisor who played a role in the Vietnam War, Milton Ross, had a son born without the tips of his fingers. Due to contact with herbicides, thousands of Vietnam veterans believe the exposure caused subsequent health problems. Frank Moore, a US Vietnam veteran, nearly dead from cancer believed his cancer stemmed from Agent Orange ("The Dark Shadow of Agent Orange"). Agent Orange was finally discontinued in 1971 due to the results of scientific studies, showing the extreme danger and many ongoing effects it was causing ("The Dark Shadow of Agent Orange"). However, for many people, this decision was too little too late.

The long-lasting implications of Agent Orange left many veterans struggling with debilitating health complications and expensive medical bills. Many veterans felt anger and frustration with the United States government's use of a dangerous herbicide, without knowing

the risks. The implications for United States soldiers created fury and lawsuits between veterans and chemical companies that produced Agent Orange. One such lawsuit was filed in 1979 against the Dow Chemical company which was one of several companies that manufactured Agent Orange. “The suit was certified as a class action, and the sides reached a settlement agreement in 1984 by which the defendants established a \$180 million Agent Orange Settlement Fund” (Derfner, Jeremy).

Many other veterans likewise filed a major lawsuit in 1979. Approximately 2.4 million veterans exposed to Agent Orange came together to file a class action lawsuit against seven large chemical companies that produced the herbicide. After five years of waiting, the lawsuit was resolved in an out-of-court settlement. Veterans and their families received a total of \$180 million in compensation. Even after this lawsuit, over 300 veterans filed other lawsuits. By 1988, the settlement total had risen to \$240 million (“Agent Orange”).

Due to the undisclosed risks of chemical warfare in the Vietnam Conflict, the United States government faced millions of veterans exposed to Agent Orange seeking compensation to cover their life challenges and medical care. At first the United States government was hesitant about acknowledging the long-lasting implications of Agent Orange. After many lawsuits were filed and veterans were clearly facing a myriad of medical struggles, the United States had a congressional hearing in the House on January 29, 1991. Rep. Don Ritter, the representative of Pennsylvania, stated “We need to be behind our troops 100%. Not only on the battlefield but on the homefront as well (CSPAN).”

After the hearing, the United States government devised a compromise: the Agent Orange Act of 1991. The Act includes several separate parts. First, the Act listed specific diseases associated with the exposure to dioxins in Agent Orange. Second, every veteran wanting to receive benefits needed to be a Vietnam veteran whose exposure to Agent Orange was clearly documented (“Agent Orange Act of 1991”). Third, the government held the National Academy of Science (NAS) responsible for creating an updated list every year that included all the diseases that result from dioxin (Derfner, Jeremy). Next, the Agent Orange Act allowed the eligible veterans the benefit of medical treatment, hospitals, nursing homes and domestic care. In addition, the Act established a program to collect data on physical examinations and treatment of veterans to be analyzed on an ongoing basis. Furthermore, it created a system to collect and test blood and tissue samples of veterans impacted by the exposure to Agent Orange. The Act also established a scientific research program investigating dioxins and other toxic herbicides used in Vietnam. In order to gain benefits from the government, every Vietnam veteran was required to have their blood tested for the dioxin (“Agent Orange Act of 1991”). Overall the Act gave benefits to veterans and acknowledged the harm and diseases caused by Agent Orange, but could never take back the lives lost and damaged. "We got most of what we wanted out of this compromise," said Rep. Lane Evans (D-Ill.), a leader of the Congressional Vietnam-Era Veterans Caucus. "This is a big step forward in dealing with Agent Orange." (McAllister).

Three large consequences took place after the use of Agent Orange in the Vietnam War. One was massive environmental devastation. Second, a reported 400,000 lives were lost due to herbicide exposure. Third, 500,000 children were born with life-changing birth defects and 2 million people had cancer or other illnesses due to the exposure. The Vietnam conflict caused

lasting damage to all involved in this significant chapter in American History. Sadly, the lasting impact caused by the use of Agent Orange in Operation Ranch Hand wasn't properly addressed until two decades later with the passing of the Agent Orange Act of 1991. This act attempted proper retribution to those individuals and families impacted. Unfortunately, no amount of money could compensate for the damages done to these soldiers protecting American freedom and to the Vietnamese.

Annotated Bibliography

Primary Sources

“Defoliation Plan Called Dangerous.” *The Hartford Courant*, 1 Dec. 1967. *ProQuest Historical Newspapers*, hn.bigchalk.com. Accessed 15 Oct. 2017.

This newspaper article is a primary source from 1966. I used this primary source to gain information about the time period of Operation Ranch Hand. This article was about the dangers of herbicides used in the Vietnam War.

“H.E.W. Is Urged to Study Problem over a Herbicide Used in Vietnam.” *New York Times* [New York], 27 June 1979. *ProQuest Historical Newspapers*, hn.bigchalk.com. Accessed 15 Oct. 2017.

This newspaper article identifies as a historical primary source from 1979. This source included an investigation of Vietnam veterans’ health. I used this source to help me dig deeper into the subject and understand the consequences of Agent Orange.

“House Session.” *CSPAN*, 29 Jan. 1991, www.c-span.org. Accessed 26 Jan. 2018.

This primary source congressional hearing in the House video took place on January 29, 1991. In this video, many representatives talked about the need for the Agent Orange Act of 1991. This congressional hearing resulted in the Agent Orange Act of 1991.

“H.R.556 - Agent Orange Act of 1991.” *Congress.gov*, 29 Jan. 1991, www.congress.gov.

Accessed 3 Jan. 2018.

This Congressional Act is a primary source because it is the Agent Orange legislation published by the United States Government. I used this source as a resource for me to understand the United States compromise on Veterans’ health after the Vietnam War. The Agent Orange Act was passed on January 29, 1991.

Maffre, John. “Vietnam War Creates Need for Defoliants.” *Historical Newspaper* [Los Angeles], 1923. *ProQuest Historical Newspapers*, hn.bigchalk.com. Accessed 13 Oct. 2017.

This newspaper article is a primary source from 1968. The article describes the different types of Agent Orange and how many gallons of herbicides were used. I used this newspaper to confirm facts I already knew.

McAllister, Bill. "Compromise Reached on Agent Orange Legislation." *The Washington Post*, 18 Jan. 1991. *The Washington Post*, www.washingtonpost.com. Accessed 3 Jan. 2018.

This newspaper article, published on January 18, 1991, is a primary source after the Agent Orange Legislation passed. This article explains the Agent Orange Act and gives examples of lawsuits resolved.

"Traces of a Toxic Chemical Found in Vietnam Veterans." *New York Times* [New York], 13 Dec. 1979. *ProQuest Historical Newspapers*, hn.bigchalk.com/. Accessed 15 Oct. 2017.

This newspaper article is a primary source from 1979. This article gave me information on tests related to Agent Orange and results. I learned about the extremely dangerous chemical "dioxin."

Secondary Sources

"The Dark Shadow of Agent Orange." *U.S. History in Context*, Gale, 11 May 2014, link.galegroup.com. Accessed 1 Nov. 2017.

This video is a secondary source that contains individual clips of primary sources. I used this video to gain information about the start of Operation Ranch Hand and the end results of

chemical warfare in the Vietnam War. This video explained the reason for Operation Ranch Hand and the reason Agent Orange was discontinued. I also learned about the health risks associated with Agent Orange and how it affected veterans who served in Vietnam. The video contained primary sources of video clips of people talking about the issue in the late 1980's.

Derfner, Jeremy. "Agent Orange and Defoliation." *U.S. History in Context*, Gale, link.galegroup.com. Accessed 27 Nov. 2017.

This database identifies as a secondary source. The U.S. History in Context, by Gale, gave me context on Operation Ranch Hand. I learned; why the US decided to start this campaign, the operation plan, how long the operation lasted, how much herbicide was sprayed, where herbicide was sprayed, what chemicals were sprayed, how they sprayed chemicals, and the long-lasting impact of the herbicides on the land and on human health. This resource gave me lots of information on Operation Ranch Hand and its effects.

Gitlin, Martin. *U.S. Involvement in Vietnam*. Edited by Mari Kesselring, North Mankato, Minnesota, ABDO Publishing Company, 2010.

This book identifies as a historical secondary book about the Vietnam War. This source was used for context information about Operation Ranch Hand and the herbicides used during the Vietnam War. This resource gave me have a better understanding of the topic and its background.

History.com Staff. "Agent Orange." *History.com*, A+E Networks, 2011, www.history.com.

Accessed 3 Jan. 2018.

This website, by history.com, is a secondary source filled with information on Agent Orange. I received crucial information about the effects of Agent Orange on U.S. Vietnam Soldiers. This website contained information on a lawsuit that took place in 1979 over Agent Orange's effect on humans. I obtained information on a settlement created by the US Supreme Court discussing the compromise on veterans' health due to exposure to Agent Orange.

---. "Truman Doctrine Is Announced." *History.com*, A+E Networks, 2009,

www.history.com. Accessed 9 Jan. 2018.

I used this secondary source to gain background knowledge of the Cold War and the time period the United States joined the Vietnam War. This website explains the Truman Doctrine, which states that any country fighting against communism will gain help from the United States. This website gave me a clear explanation of the Truman Doctrine and how it impacted the Vietnam War.

---. "Vietnam War." *History.com*, A+E Networks, 2009, www.history.com. Accessed 3 Jan.

2018.

This website is a secondary source used to describe the Vietnam War and the United States involvement in the War. I researched the dates the War took place, where it took place, when it took place, who was included in the war, and why the War started. I also learned about the millions of lives lost due to the Vietnam War.

Lawson, Don. *The United States in the Vietnam War*. New York, Crowell, 1981. The Young people of America's War Series 11.

This book is a secondary source filled with information about the start to Operation Ranch Hand. This book includes information on Operation Ranch Hand and Agent Orange, context of the Vietnam war context, and information on how the United States got involved in the Vietnam War.

Morello, John A. "Agent Orange." *Dictionary of American History*, edited by Stanley I. Kutler, 3rd ed., vol. 1, New York, Charles Scribner's Sons, 2003, pp. 54-55. *U.S. History in Context*, link.galegroup.com. Accessed 1 Nov. 2017.

This secondary source website contains a book of information on Operation Ranch and Agent Orange. I used the information to take notes on; the Operation, Agent Orange, the different chemicals used, the consequences of using the herbicides. I found multiple detailed explanations on Agent Orange and the reason for the spread of it.

Murray, Stuart. *Vietnam War*. New York, DK Publishing, 2005.

This book is a secondary source that describes the reason to use herbicides and the process of making Agent Orange. I learned about the Viet Cong, Napalm (an explosive jelly), and the aircrafts used for Agent Orange.

O'Connell, Kim A. *Primary Source Accounts of the Vietnam War*. Berkeley Heights, MyReportLinks.com Books, 2006.

This book identifies as a secondary source, but this book is filled with primary sources from the Vietnam War. I used this book to gain primary sources from the time period. The book also describes the location of the War.

Thomas, William. *The Home Front in the Vietnam War*. Milwaukee, World Almanac Library, 2005.

This book is a secondary source. It gave me information about returning Veterans and how their life and health changed after the War. The book also contains information on Agent Orange and the chemicals included in the herbicide.