

It wasn't the chemicals that changed, but the MIND OF ONE MAN who has caused irreparable harm to those who served our country

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Dr. Alvin Young has been responsible for blocking countless veterans from getting the help they need.

The chemicals haven't changed over the decades, just his story.

How United States Agricultural Herbicides Became Military and Environmental Chemical Weapons

From the first batch in the 1940s, which was what would be considered Agent Purple with a much higher dioxin than Agent Orange, every batch of 2,4,5-T ever made had an unknown amount of dioxin. Dr. Alvin Young tells us these agents were never used commercially because ONLY Agent Orange made to Military Specifications contained the n-Butyl ester. The historical documents tell us a different version. He has known the true facts since his first involvement during the Vietnam war. And has, himself, connected the dots for us.

“Dr. Ezra J. Kraus, the Head of the Botany Department at the University of Chicago and a plant physiologist, suggested on the eve of WWII that weed killers had significant military value as chemical weapons. Dr. Kraus obtained access to a synthetic chemical, 2,4-D, and found that when the chemical was absorbed through the leaves of plants, it destroyed a plant's hormones. After exposure, the plant experienced rapid and uncontrolled growth, and then the leaves shriveled, died and fell off. Dr. Kraus obtained funding for his Department of Botany research program from the Department of Defense (DOD) during World War II (WWII). Camp Detrick (Biological Weapons Laboratory) scientists later obtained samples of newly created 2,4,5-T which contained unknown amounts of the by-product dioxin TCDD. In the 1950s and 1960s, Fort Detrick military scientists formulated the herbicide Agent Orange, which was a 50 - 50 mixture of 2,4-D and 2,4,5-T. These dual-purpose herbicides were used by DOD and USDA. American and European farmers in the 1940s used 2,4-D and 2,4,5-T to eliminate weeds from pastureland and cropland. After WWII, synthetic herbicides (and pesticides) development continued in tandem with production of synthetic fertilizers and breeding of high-yield plant varieties. These new agricultural products were then shipped worldwide to increase crop yields, as part of the Green Revolution. This new system of agricultural technologies

was intended to eliminate global starvation and increase food security by increasing field and farm crop yields. In contrast, the goal of military use of herbicides, as chemical weapons, was to defoliate jungle forests and destroy food crops as a strategy to win battles and wars.”¹

The Travels of Orange in the U.S. Exports

The U.S. Exports show the same chemicals shipped to the Panama Canal Zone as shipped to Vietnam to be used to defoliate. In 2016, while writing [The Travels of Orange](#), I reached out to [Dr. Wayne Dwernychuk](#), who is the real Agent Orange Expert in the world. He is the Scientist from Hatfield Consultants of Canada who found Agent Orange in Vietnam to help our Vietnam veterans.

Dr. Dwernychuk edited my book and stated the following which would be applicable to each of us who lived and served in the Canal Zone, no matter the year. I had asked him how this item shipped was any different than the same item shipped and used in Vietnam on the same document. I had given him just the Exports for the years we lived at Fort Davis, CZ.

“Table 2 titled Schedule B Commodity by Country Domestic/Merchandise (<http://catalog.hathitrust.org/Record/000497548>) clearly shows the transport and exportation of the herbicides 2,4-D and 2,4,5-T to Panama 1973-1977. It is unclear whether these two herbicides were, in fact, in an Agent Orange composition (as defined by US military specifications) as a shipping commodity, or they were shipped separately. They may have been mixed on site in the PCZ, or were, conceivably, applied separately. However, with respect to toxicological properties, it makes no matter whether these two herbicides were mixed or not. The very fact that 2,4,5-T was used is sufficient grounds to conclude that TCDD was applied wherever 2,4,5-T was used as a vegetation control agent. The TCDD content of the 2,4,5-T varied over time, but regardless, it was present in this herbicide and introduced to the PCZ environment. Unfortunately for service personnel, there were no attempts, to my knowledge, to ascertain the TCDD content of 2,4,5-T used in the PCZ or, for that matter, in the PCZ soils or any other environmental media. TCDD in soil can remain a toxic component of the environment for over 100 years (Paustenbach, et al., 1992).”

Even though years ago Dr. Dwernychuk wasn't sure this was the exact same item as used in Vietnam, I now know from the Classification Schedules and the Military Specs it certainly is! Our Panama Canal Zone Veterans should not have to jump through hoops to get benefits for exposure which caused many cancers and other serious ailments. My own husband's claim is going on 9 years waiting for a decision from the VA.

While researching for The Travels of Orange, I found official government reports showing the following pesticides used in the Canal Zone: Mercury arsenate, Lead Arsenate, Arsenics, DDT,

¹ [How United States Agricultural Herbicides Became Military and Environmental Chemical Weapons: Historical and Residual Effects \(scirp.org\)](#)

DDD, DDE, Toxaphene, Endrin, Aldrin, Dieldrin, Silvex, 2,4-D, 2,4,5-T, pentachlorophenol, copper sulphate, cloradane, malathion, parathion, and heptachlor, just to name a few. We were all engulfed in the DDT cloud that came through our neighborhoods. Even after DDT was banned in 1971, it was still used worldwide.

The List of Locations – Contracted by the DoD

The VA and the DoD have paid Dr. Alvin Young to write a series of reports. The DoD contracted with Dr. Young to write the [2006 List of Locations where Agent Orange was used](#). Dr. Young knew the truth at that time that it was used on every base from the reports he wrote prior in 1970 and 1978.

I personally don't think Dr. Young is worth the money (apparently in the millions) the government has paid him to do this kind of research to help our veterans. He has done nothing but caused harm to our veterans and the VA benefit process. Maybe this is by design. And if so, this is unfair to our veterans!

Alvin Young Collection on Agent Orange – Contracted by the VA

The VA contracted with Dr. Alvin Young to bring together all the Agent Orange documents into an online depository (USDA library) called the [Alvin Young Collection on Agent Orange](#). He left out many documents from his online collection. It seems purposeful, because he has to know they exist.

For instance, **his own report of 1970; his report of 1978; a 1978 Hearing** he participated in with the VA Medical Director where DOW told Congress there was NEVER anything special made for the military, **the Classifications Schedule** for the items shipped on the U.S. Exports, the **Pesticide Review written by the USDA, U.S. Exports, [1971 Federal Catalog](#)** showing Herbicide Orange available to all facilities, just to name a few.

SB 3-40

The Armed Forces Pesticide Management Board [SB 3-40 of 1968](#) lists Orange and the other Rainbows as able to be used on any U.S. base (approximately 800 located around the world). For Orange, it lists the Federal Stock Catalog number and it lists the Military Specifications for Orange as MIL-H-51148.

The SB 3-40 tell us it was up to the Installation, **not the Unit**, for the use of these chemicals. Unless maybe it was an Entomology Unit. Many veterans have been denied when the VA erroneously checks for records of the Veteran's Unit doing spraying. It wasn't done that way for the most part. There were a few military that handled chemicals outside their MOS.

Through these historical documents, Dr. Alvin Young has helped to connect the dots over these decades, and all point to the fact that Agent Orange and Purple were shipped worldwide and the Panama Canal Zone veterans were exposed to the same exact chemical as used in Vietnam, and according to VA law, should get help.

Allegations of Agent Orange in the Canal Zone 2012

Dr. Alvin Young wrote [Investigations into the Allegations of Agent Orange in the Canal Zone and Panama in 2012](#). In this report he references his own 2006 report of locations as fact, making him a circular reference. He makes a lot of claims throughout this report which he would have known as incorrect based on his own previous reporting for the U.S. Government.

He claims these chemicals were made to Military Standards and would not have been used commercially, yet these same ones were shipped worldwide. The SB 3-40 above list the Military Standard for 2,4,5-T, so let us examine this fact.

Military Standard for 2,4,5-T, MIL-H-51148 as listed in the SB 3-40 for Orange

The Military Standard for 2,4,5-T is [MIL-H-51148](#). The exact same contents are packaged for Federal Standards. As we see below in 1959, Federal and Military specifications were the same by the DoD Directives and Federal law. The only difference for the Rainbows was the stripe painted on the barrel.

Again, the chemicals have not changed throughout the years, only the writings of one man, Dr. Alvin Young, who the DoD and the VA contract with to tell Dr. Young's own story to suit the VA and DoD throughout the decades, which has prevented countless veterans from getting help. It is a travesty to our veterans!

Dr. Young, the Great Researcher he is, knows there is no such thing as "tactical herbicide" only a commercial herbicide code named Orange used tactically in war. He should have known from his own writings, first as a young 1st Lt, and then later as a Captain.

Dr. Alvin Young's writings since at least 1980 should be rejected by all as they are filled with inaccuracies that he should know not to be true as he has been intimately involved in this Agent Orange litigation for decades and [testified himself to the EPA in 1980](#) there was no difference in the dioxin content between the "tactical" and the "commercial" version.

Dr. Alvin Young knew this statement he made to the EPA in 1980 was true then, just as it is true today. However, he has written just the opposite in the past few decades, preventing countless veterans from getting the help they earned from the country they served.

It is the dioxin that caused the harm to all. He testified about the makeup of Purple and Orange and that they were commercially available. As we see, these are EXACTLY what the Schedule B U.S. Exports consisted of, with the n-Butyl ester, which he later wrote made Orange Orange and was not ever used commercially. Why would he write just the opposite as he wrote prior?

It makes absolutely no sense how the chemical makeup of 2,4-D & 2,4,5-T could change. It can't. We have been fooled by the writings of this so-called expert. Are we to believe his 1970, 1978, 1980 writings and testimonies that prove we were exposed to this same chemical known the world over as Agent Orange? Or are we to believe his more recent reports since Vietnam to deny our Veterans?

The VA and DoD have also been intimately involved in litigation, testimonies, reporting and do also know the truth. So the billion dollar question is why would they treat their CZ Veterans any different than anyone else so exposed? It's got to be the \$\$\$\$. Yet, the VA can waste money on giving themselves raises for doing what they claim to be a good job for our Veterans. I have to disagree.

1961 Hearing on the Study of the Operations of the Panama Line

All commodities shipped on the U.S. Exports to Panama were all offloaded at Canal Zone ports. Military cargo was also shipped by Commercial ships according to the MTST in the [1961 Hearing on the Study of the Operations of the Panama Line](#). On Page 52 it states that the MTST consisted also of commercial ships for military cargo and they would go through the Canal with military cargo and offload it on either side of the Canal, wherever the Army directed them to. Sometimes turning around and coming back through the Canal after dropping at one side or the other.

Military Herbicides and Insecticides by A.L. YOUNG, 1st Lt, USAF TECHNICAL NOTES AFATL-TN-70-1 March 1970

In March 1970, then 1st Lt. USAF Alvin Young was asked to write a report for the DoD outlining what herbicides/pesticides were being used by the military. On page 3 of his report [Military Herbicides and Inseticides by A.L. YOUNG, 1st Lt, USAF TECHNICAL NOTES AFATL-TN70-1 March 1970](#) he gives the common names and the scientific names of the Rainbow herbicies, which match up EXACTLY to the Specifications of what was shipped to Vietnam and Panama as shown on the U.S. Exports Schedule B, both during Agent Purple (1958-1964) and Agent Orange years (1965-1977).

In more recent years, he states that these chemicals were made to military specifications and would have never been used commercially. In his 1980 testimony in front of the EPA he stated that these chemicals were commercially available. This herbicide used in Vietnam was always a common commercial item used tactically as was testified by Dr. Young himself and as the [Presidential Advisory Board of 1971](#). It states on page 32 of the Presidential Advisory Board report, it states:

“The phrase, military uses, refers to the employment of 2,4,5-T as a defoliant in operations. Basic research on herbicides proceeded through the period 1941-1947.”

Dr. Young has repeatedly explained that the difference is Agent Orange contained the n-Butyl ester. As we see throughout the decades, turns out so did the commercial brand from day one.

OEHL-TR-78-92, “The Toxicology, Environmental, Fate, and Human Risk of Herbicide Orange and its Associated Dioxin, by Alvin Young, Captain, USAF, et al.”

Dr. Young as a Captain for the Air Force in 1978 also wrote a report OEHL-TR-78-92, “*The Toxicology, Environmental, Fate, and Human Risk of Herbicide Orange and its Associated Dioxin, by Alvin Young, Captain, USAF, et al.*” He lists on page V-III that the listed Rainbow chemicals were as stated by the Pesticide Review in the 1970s. He states:

“The Total production and export data were from The Pesticide Review, 1970 and earlier Issues, U.S. Department of Agriculture.”²

The [Pesticide Review](#) was written by the USDA and the DoD and calls out the U.S. Export of 2,4-D & 2,4,5-T to Vietnam by Schedule B number, the same exact item that went to both Vietnam and the Panama Canal Zone. The Pesticide Review says that 2,4-D & 2,4,5-T Technical brand was shipped on the U.S. Exports under 82080 before 1965 or 5120620 after 1965. See all years reported in the [Pesticide Review 1953-1977](#).

As we saw prior in this paper, it was the USDA who first used these Rainbows around the world and brought them to the military to defoliate because they were fantastic weed killers, as listed in the 82080 classification schedule.

U.S. Exports Classification Schedule for Schedule B 82080 Agent Purple

Here we see the U.S. Exports Classification Schedules for Schedule B 82080. [Export Classifications for 82080](#) (1958-1965). Notice all the different names for this item, same common names used earlier by Alvin Young in his 1978 report as being the Rainbows. Notice, too, that this item shipped to both Panama and Vietnam had the *n-Butyl* ester within it, which Dr. Alvin Young later claimed was never used commercially. His statements are pure bunk based on these historical documents which he himself has been a part of producing.

² [The Toxicology, Environmental Fate and Human Risk of Herbicide Orange and Its Associated Dioxin](#)

As the excellent-paid researcher Dr. Alvin Young claims to be, I can only assume that he has disregarded his own writings and the historical official documents contained herein for the betterment of his pocketbook and at the expense of our veterans.

U.S. Exports Classification Schedule for Schedule B 5120620 Agent Orange

Here we see the [Export Classifications for 5120620](#), which began shipping in 1965 and was known as Agent Orange. This is the exact item that the USDA claims went to Vietnam and Panama on the Pesticide Review. Dr. Alvin Young claims that since the so-called “commercial” version was not made the same and contained no n-Butyl ester is why he claims we could not have been harmed by the so-called commercial version. But as these historical documents show n-Butyl ester was used from the beginning and is not what made Orange Orange. And as we see from the U.S. Exports Classification Schedule it tells us that the n-Butyl ester was contained in what was shipped to both Vietnam and Panama. Which Dr. Alvin Young later in life said the nButyl ester was only in Orange and never used commercially.

The Color-coded Stripe

Orange and the other Rainbows were just code names for the colored stripe on the barrel. The same contents in the 55-gallon drums would have been passing each other in shipping, stripe or no stripe, the contents were the same according to the Schedule B Classification schedules. Dr. Alvin Young, as the Government’s AO Expert, would have access to how these chemicals were classified and shipped.

Anyone who reads these documents can clearly see we were indeed exposed to the same exact chemicals that our Vietnam veterans were. Maybe even more than our Vietnam veterans. Panama received shipments of more than 3 million pounds of herbicides. We lived in a 10 x 50 mile radius with 14 base operations. These chemicals have been proven to travel by wind current up to 35 miles. And were used in the Canal Zone many more years than Vietnam. Plus, many CZ veterans were in country for several years. As we saw in the testimony of Mr. Charles Bartlett, an official government Detrick employee, the color coding was an enhancement for sprayers in foreign countries.

Why did H.R. 5206 and H.R. 2447 fail to advance in Congress?

Veterans are wondering why two bills to help Panama Canal Zone veterans have been ignored by the Congress. Why our bill cannot and will not get out of the Veterans Affairs Benefits Committee in the House of Representatives. Here are a few pieces of the puzzle which are sad, but true.

The Congress, the VA, the DoD and their paid expert Dr. Alvin Young have known for years we are telling the truth. Instead of helping our Veterans, they have chosen to pay to keep these facts

quiet. It is a travesty for our Veterans who served this country honorably to suffer and to know that their government has chosen to forsake them.

Long, long ago, at the [1978 Congressional Hearing Before the Subcommittee on Medical Facilities and Benefits of the Committee of Veterans Affairs House of Representatives Ninetyfifth Congress, Second Session on "Herbicide Orange" October 11th, 1978](#), Not only was Dr.

Alvin Young present but Mr. J. Charles Peckarsky, the V.A.'s **Director of Compensation and Pension service** sat next to then Captain Alvin Young, where the **DOW Medical Director** testified to Congress that there was NEVER anything special made for Orange. It was ALWAYS a normal agricultural product used all over the world. In fact, according to Major General Garth Dettinger, then Deputy Surgeon General, 4X as much dioxin was used in the United States than was used in Vietnam and it was at a much higher concentration of dioxin.

So not only has the DoD and the VA paid Dr. Alvin Young to write reports of just the opposite of what he knows to be true, our House of Representatives was also made aware there is no difference in these chemicals long ago, as well as the VA Director of Benefits. Is this the reason our Panama bills to help our veterans is stuck in the VA Committee and have been killed? They absolutely know the truth if they are worth a grain of salt in their ability to research this subject. The Congress is supposed to have a Research Committee.

Tactical vs Commercial

It is the dioxin which has caused the harm. Dr. Alvin Young has written many reports stating that there was a difference between the "tactical" and "commercial" brand, knowing this contradicts what he and the VA Benefits Director were told by DOW, the maker of this chemical in the Congressional Hearing in 1978. These reports differ than what he testified to in front of the EPA in 1980. These reports differ than his earlier reports where he describes the Rainbows and tells us they were shipped through the U.S. Exports. What changed his mind? Was it the \$\$\$? By his own words, he has made millions writing about this subject.

Every batch of 2,4-D & 2,4,5-T had unknown amounts of dioxin. Dioxin is made during manufacturing, depending on the heat and impurities of the batch. This weed killer was the most used chemical on the planet. Countries all over the world signed Import Agreements to purchase this chemical. They tested it in their country and worked great to kill weeds. Panama's own Ministry of the Environment (MIDA) hired the local sprayers for the Canal Zone through the RENARE program. These chemicals came about during WWII. Panama Canal Zone Veterans were exposed before, during and after Vietnam to the same 2,4-D & 2,4,5-T used in Vietnam to defoliate.

Armed Services Procurement Act of 1959

[In 1959 the Armed Services Procurement Act and subsequent Department of Defense and Navy Procurement Directives make the use of coordinated Federal and Military Specifications mandatory for the procurement of items, materials and services.](#)

Shipments of Agent Purple with the higher dioxin content began shipping by Schedule B nomenclature on the U.S. Exports in 1958. Prior to 1958, it was just called Weed Killer but also the same chemical make-up, as we see in the Schedule B Classification Schedules for 82080. The Federal Government and the Department of Defense made it mandatory that the same commodities could be used for both. This means that the Panama Canal Zone received these devastating herbicides before, during and after Vietnam. The exact same item shipped on the same [U.S. Exports list](#) under the same Schedule B number to all countries, including Vietnam.

The NOTES section in the front of the Schedule B tell us that the commodities exported were used in the country of destination.

Testimony from veterans across the country describe the presence and use of these carcinogenic herbicides at bases in the Canal Zone. Many Canal Zone veterans suffer with diseases on and off the VA list and yet are turned away by the VA based on one man's erroneous writings. We all lived in a 10 x 50 mile strip of land. These chemicals are known to have traveled 35 miles by air. Many Veterans have died never getting any help. Let alone the countless civilians like myself who have no pathway to ever getting help.

Soil and Sediment Half-Life of Dioxin

The soil and sediment half-life of Dioxin is up to 100 years. The Veterans and civilians living and serving in the Canal Zone could have been exposed by many ways. Through herbicides used in Gatun Lake, our drinking water, since 1948; spraying on all bases in a 10 x 50 mile area; by air; by water; by bio-accumulation of the food we ate, or just being in the proximity of a sprayed area. Fort Sherman was where Jungle Operations were held routinely, and the area was heavily sprayed with something that killed vegetation quickly.

So this well-paid expert knew and wrote as a young Lieutenant that these Rainbows were shipped on the U.S. Exports, as shown through the Pesticide Review written by the USDA and DoD, and yet when we show these Exports to the VA, the VA asks the DoD and this very same "so-called" expert responds these chemicals were never there, according to the list of locations where these chemicals were used, which, by the way, is written and updated also by this "socalled expert" Dr. Alvin Young.

The Pesticide Review

One only has to search the [Pesticide Review](#) throughout the years for the Schedule B Number, the word Vietnam, to see that these Schedule B numbers 82080 and 5120620 (2,4-D & 2,4,5-T) were indeed shipped to both Vietnam and Panama Canal Zone. And this is what Dr. Alvin Young claims is Orange in his 1978 report. In other words, the same exact chemical used in Vietnam was used for vegetation management all around us. In fact, over 3 million pounds of herbicides were shipped to the Canal Zone.

If the chemicals have never changed and this researcher and Agent Orange expert knew in the 1970s what these Rainbow agents were, how they were shipped, how they were tracked then, how was his mind changed? Was it \$\$\$?

Agent Orange Barrels found in front of Fort Sherman dilapidated quarters in Spring of 2020

It seems ironic that old, contaminated Agent Orange barrels are being used as late as Spring of 2020 as fencing to keep people out of a contaminated area in front of old Fort Sherman quarters. How did they get there in the first place and who removed them?



Figure 11. Rusted Agent Orange barrels which contained 2,4,5-T more than 50 years ago. Was part of a 2020 barrier in front of housing at Ft Sherman
Photo credit: Eric Dziekan.

Photo taken in Spring 2020, the barrels have since been removed by someone

It turns out from the [testimony of a Detrick employee by the name of Charles Bartlett](#), he testified that 200 barrels of Agent Orange were shipped to Panama Canal Zone and that is was no big deal as these chemicals were always shipped and used there.

The PACT Act 2024

President Biden makes it seem like everyone has been taken care of. See the Remarks by President Biden on the PACT Act | Nashua, NH, [May 21, 2024 address](#):

“We learned a terrible lesson after Vietnam as those harmful effects of Agent Orange took years to manifest and left too many veterans without the care they deserved because they had to prove that every illness, they had was a consequence of Agent Orange. It was often too hard to do. That’s why I co-sponsored the Agent Orange Act in the Senate way back in 1991 to support veterans exposed to toxic substances in Vietnam. That’s why I pushed the PACT Act, so today’s veterans don’t suffer the same painful frustrating delays and denials.”

- President Joe Biden, May 21, 2024

After all these decades, Panama Canal Zone Veterans are still suffering the same painful frustrating delays and denials. If it’s the money it will cost to help all those who were injured serving our Country, then please stop spending money on giving yourselves raises for doing a good job for our Veterans. Our Canal Zone Veterans are hurting and ignored. It is a terrible

lesson they are learning after serving their Country honorably that their Country does not take care of its Veterans but would be willing to pay someone to prematurely send us off to our death.

Dr. Alvin Young's reports

Dr. Alvin Young's Agent Orange series of writings all say in the front they are living documents and can be changed if new information is brought forward. When our CZ Veterans do bring information forward, they are denied benefits and sent away, all because of the erroneous writings of the government's bought and paid for expert Dr. Alvin Young. My hope he will update his reports so the Truth will break through the coverup and Veterans can get the help they deserve.

His writings since at least 1980 should be rejected by all as they are filled with inaccuracies that he knows not to be true for his own financial gain at the expense of our veterans.

**The author lived in the Panama Canal Zone with her Army husband 1974-1977 at Fort Davis and saw spraying every day.*

Researched for answers, wrote [The Travels of Orange](#), to help CZ Veterans

Posts documents on the website <https://agentorangeinpanama.com> to help CZ Veterans with their claims

Co-author [Long-Term Environmental Impacts of Pesticide and Herbicide Use in the Panama Canal Zone](#) Hear Panama Canal Zone stories @travelsoforange on YouTube