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The UK's use of Agent Orange in Malaysia

Posted by [Doug Weir](#) on Nov 12, 2014 in [Blog](#), [Environmental impact](#), [Hazard](#), [Health](#), [Humanitarian impact](#), [Legal](#), [Toxics](#), [Victim](#) | [No Comments](#)



The use of Agent Orange in Viet Nam during the 1960s and 1970s is a notorious example of widespread and purposeful environmental damage that has subsequently impacted the health of troops and civilians. Less well known is the role that the UK played in developing Agent Orange based herbicides, which included deploying them in Malaysia in the 1950s. *Andy Garrity* investigates.

The use of Agent Orange (AO) in Viet Nam by the US military in the 1960s and 70s is a well documented case of deliberate environmental destruction. The use of AO herbicides was intended to remove forest cover but resulted in unintended health impacts. Its use eventually helped lead to the creation of the Environmental Modification Techniques Convention (ENMOD). It has also resulted in the payment of compensation to US veterans whose health was affected by exposure to dioxin from the contaminated defoliants.

AO use continues to be closely associated with the US but the role of Britain's scientists and military in developing, testing and deploying 2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) in a mixture identical to Agent Orange is less well known.

Agent Orange: A British invention

Britain was the first country to use 2,4,5-T in a military capacity, helping establish a precedent for the US to use the same potentially toxic substance in Viet Nam, albeit on a much larger scale. The British government assisted the US's development of AO amid the rush for effective defoliants and herbicides for use in tropical environments, sharing research and expertise following WWII.



British colonial forces spray Trioxone herbicide from modified fire engines in Malaysia.

The contamination of 2,4,5-T with 2,3,7,8-Tetrachlorodibenzodioxin (TCDD – a dangerous form of dioxin) came about from the lack of temperature control in the production process. This was not understood for many years after its initial production by the British company Imperial Chemicals Industries (ICI).

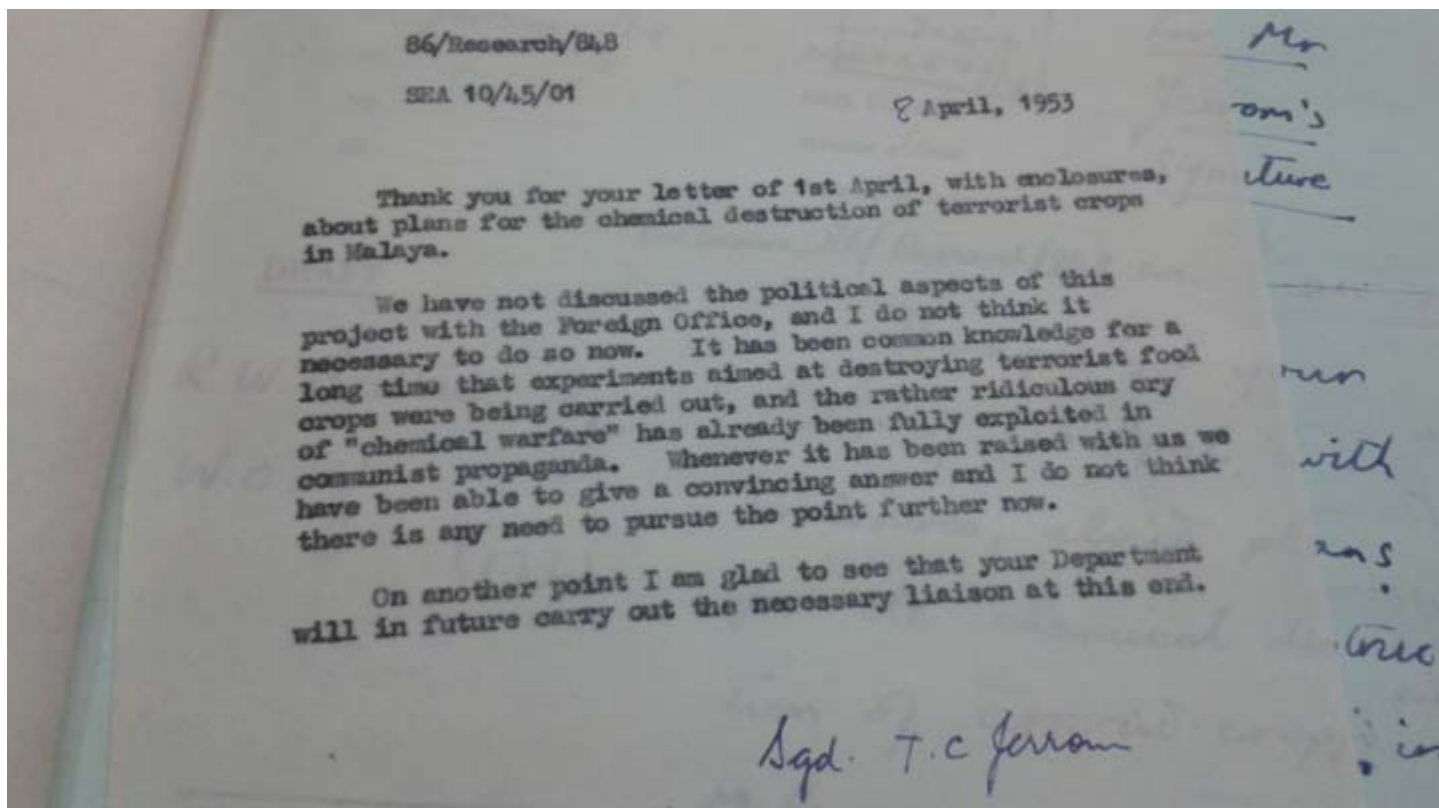
TCDD, a persistent organic pollutant is a known carcinogen (IARC Group 1) and teratogen; it can cause liver damage, induce miscarriages and exposure can cause learning difficulties and the skin complaint chloracne^[1]. In 1942, ICI developed a herbicide known as Trioxone, which was similar to AO as it was made up of 2,4,5-T (the dioxin contaminated constituent) and 2,4-Dichlorophenoxyacetic acid (2,4-D). Trioxone was brought to the attention of the UK Ministry of Agriculture for consideration for field use in 1947.

The “Malayan Emergency”

At the time of Trioxone’s development, post-WWII Malaya, at the time a British colony, was undergoing a communist insurgency due to a lack of equal opportunities and rights in many ethnic Chinese communities. The Malayan Emergency was the colonial government’s term for the conflict. The MNLA called it the Anti-British National Liberation War. The colonial rubber plantations and tin mining industries had pushed for the use of the term *emergency* since their losses would not have been covered by Lloyd’s insurers if it had been termed a *war*.

The insurgent Malayan National Liberation Army (MNLA) and its supporters lived in and around the dense tropical jungle. British forces were concerned about the cover the jungle provided and how it could aid ambushes and sabotage efforts by the MPLA.

The development of Trioxone, along with other herbicides, was brought to the attention of a General Harold Briggs, the head of UK armed forces in Malaya in 1951. Widespread testing and spraying using modified fire fighting vehicles was approved in 1952. This resulted in ICI’s entire stock of Trioxone being bought by the UK-run Malay administration. A follow-up report ultimately showed hand cutting to be cheaper due to the abundance of labour and spraying was stopped. To avoid embarrassment from purchasing a large quantity of an expensive and potentially useless chemical, it was then decided by the administration, led by Sir Gerald Templer the then High Commissioner, to target the insurgents’ food supplies that were being grown in inaccessible parts of the jungle. Spraying by helicopter commenced in March 1953.



Internal UK government letter responding to allegations in the press that the use of herbicides in Malaysia amounts to chemical warfare. Source – National Archives.

By this time several UK newspapers, such as *The Manchester Guardian*, began to decry the use of the herbicide, arguing that it amounted to “chemical warfare”. Internal British government and military communiqués dismiss these concerns as “Communist propaganda” and the government claimed that Trioxone and the other herbicides that had been tested and deployed were: “harmless to human and animal life”. However, no toxicity or long-term environmental impact studies had been conducted on Trioxone prior to its use. It wasn’t until 1957 that scientists realised that TCDD was always produced as a contaminant in the production of 2,4,5-T but even then, insufficient research had been done on its potential environmental and health implications.

Dioxin’s legacy, a transatlantic tragedy

It was US botanist Arthur Galston who discovered the potential environmental persistence and toxicity of TCDD in Trioxone and AO. He lobbied for the research that finally ended the use of AO in 1971. The Seveso industrial disaster in 1976, and an increasing number of health complaints from US veterans who served in Viet Nam, provided the impetus for further studies into the risks from TCDD exposure.

This often overlooked part of Agent Orange and TCDD’s story highlights once again the need for comprehensive toxicological and environmental modelling, testing and monitoring of substances developed for military use.

Unlike in Viet Nam where US, Vietnamese and independent studies have been conducted on the persistent contamination of sites in the south of the country, there have been no studies on the veterans who handled Trioxone, or on the Malaysian jungle or local populations who might have been affected.

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