

Thème 2 – Enjeux planétaires contemporains

2-B – La plante domestiquée

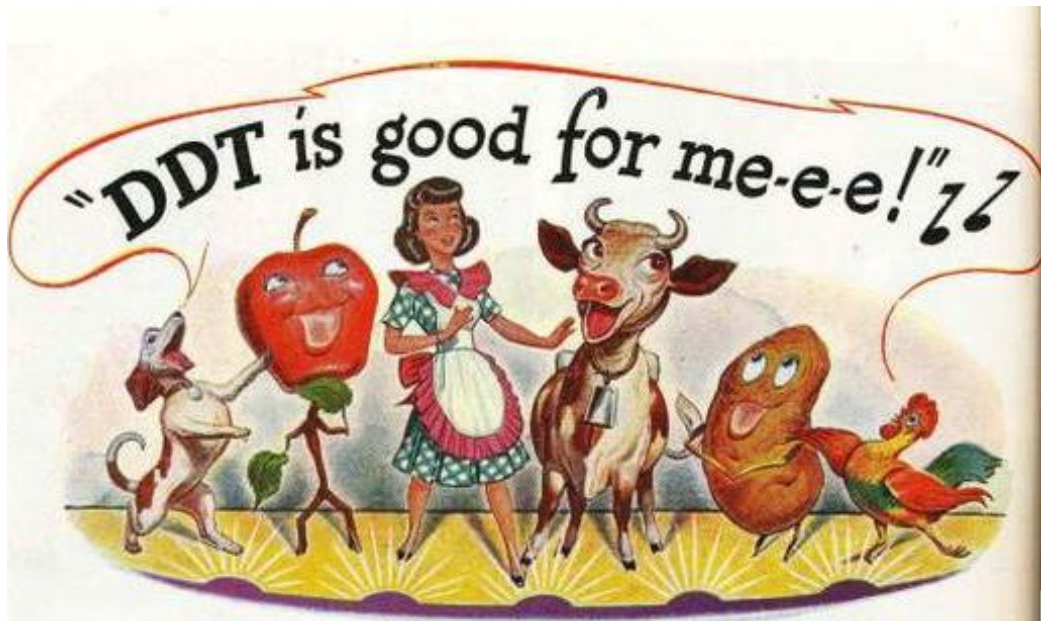
The silent spring.

Using your knowledge and the documents, explain Rachel Carson's point of view on DDT and why she has been nominated as an ecological hero.

Document 1:

Dichlorodiphenyltrichloroethane or DDT, is a synthetic pesticide. It was largely used to control common agricultural pests.

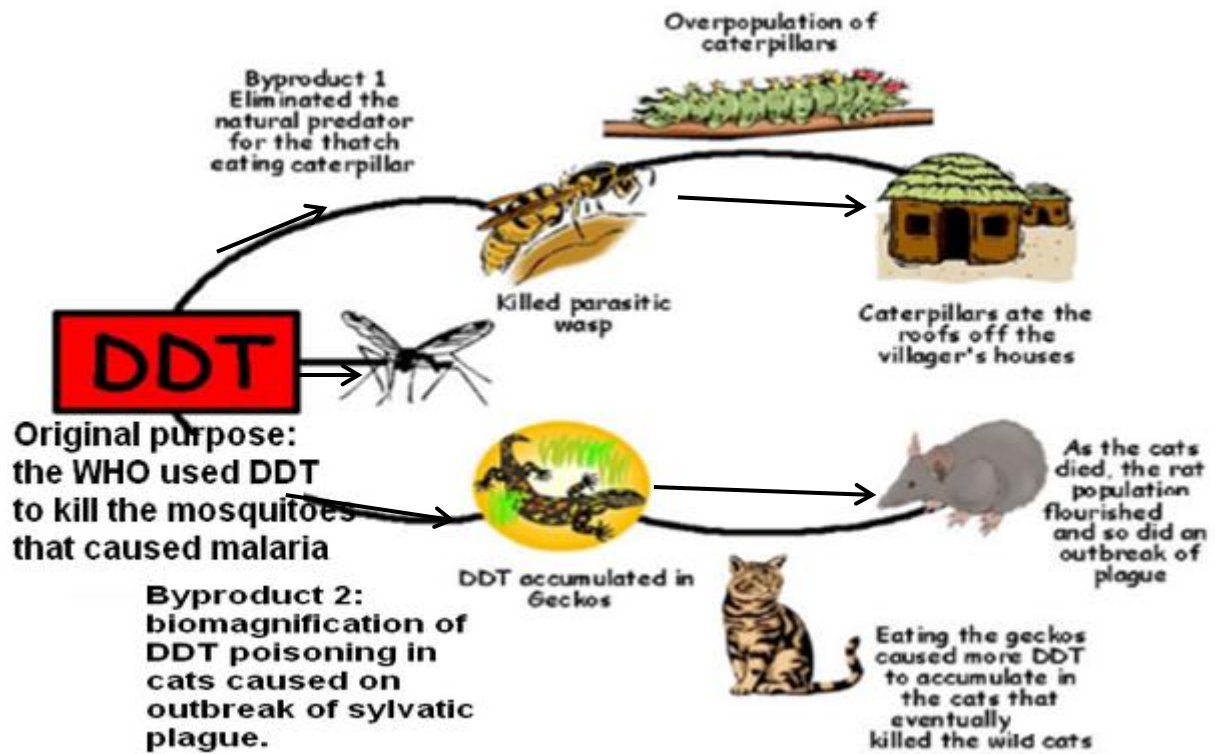
Below: advert from the 1950's.



Document 2: Effect of DDT use in Borneo.

In the early 1950's the people in Borneo suffered from malaria. The World Health Organization had a solution: kill the mosquitoes with the DDT. This is what happened.

(see next page)



Source: <http://actionoutdoors.org/educational-resources/coastal-birds/biomagnification-and-ddt-classroom-activity>

Document 3: Silent spring.

Rachel Carson's¹ Silent Spring was first published in three serialized excerpts in the New Yorker in June of 1962. The book appeared in September of that year and the outcry that followed its publication forced the banning of DDT and spurred revolutionary changes in the laws affecting our air, land, and water. Carson's passionate concern for the future of our planet reverberated powerfully throughout the world, and her eloquent book was instrumental in launching the environmental movement. It is without question one of the landmark books of the twentieth century.

Source: <https://www.amazon.com/>

Excerpt:

"Malaria programmes are threatened by resistance among mosquitoes", Rachel Carson quoted the advice given by the director of Holland's Plant Protection Service: "Practical advice should be 'Spray as little as you possibly can' rather than 'Spray to the limit of your capacity'. Pressure on the pest population should always be as slight as possible."

In the weeks before the September 27, 1962, publication, there was strong opposition to Silent Spring from the chemical industry. DuPont, a major manufacturer of DDT and 2,4-D, and Velsicol Chemical Company, the only manufacturer of chlordane and heptachlor, were among the first to respond. DuPont compiled an extensive report on the book's press coverage and estimated impact on public opinion. Velsicol threatened legal action against Houghton Mifflin, and The New Yorker and Audubon Magazine unless their planned Silent Spring features were canceled. Chemical industry representatives and lobbyists lodged a range of non-specific complaints, some anonymously. Chemical companies and associated organizations produced brochures and articles promoting and defending pesticide use.

Source: https://en.wikipedia.org/wiki/Silent_Spring

¹ Former Vice President of the United States and environmentalist Al Gore wrote an introduction to the 1992 edition of Silent Spring. He wrote: "Silent Spring had a profound impact ... Indeed, Rachel Carson was one of the reasons that I became so conscious of the environment and so involved with environmental issues ... [she] has had as much or more effect on me than any, and perhaps than all of them together."

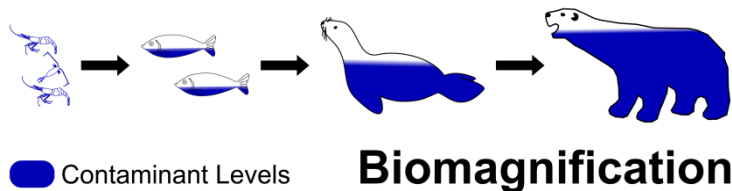
Teacher's corner :

As part of anti-malarial campaign in the northern states of the island of Borneo in the late 1950's, the World Health Organization sprayed DDT and other insecticides to kill the mosquito vector for malaria. During this campaign, DDT was sprayed in large amounts on the inside walls and ceilings of the large "long houses" that housed an entire village in these areas. As a consequence of this effort, the incidence of malaria in the region fell dramatically. However, there were two unintended consequences of this action. There was an increase in the rate of decay of the thatched roofs covering the long houses because a moth caterpillar that ingests the thatch avoided the DDT but their parasite, the larvae of a small wasp, did not. Also, the domestic cats roaming through the houses were poisoned by the DDT as a consequence of rubbing against the walls and then licking the insecticide off their fur. In some villages, the loss of cats allowed rats to enter, which raised concerns of rodent-related diseases such as typhus and the plague. **To rectify this problem in one remote village, several dozen cats were collected in coastal towns and parachuted by the Royal Air Force in a special container to replace those killed by the insecticides.**

Source: <http://catdrop.com/>



Document 2: biomagnification.



Biomagnification occurs across different trophic levels in a food chain.

Source: <http://sustainable-nano.com/>

Other possible questions:

- Explain natural selection...
- Antibiotic resistance...