

## CIA Toxin Related to 'Red Tide'

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The shellfish toxin in the CIA arsenal of deadly weapons is a common substance that can be found in contaminated shellfish on both sea coasts.

According to an official at the Food and Drug Administration, there have been no recorded deaths in the United States "in the last 40 years" from the toxin, which kills by paralyzing the respiratory system. However, there have been many instances of poisoning.

The toxin comes from micro-organisms that are always present at the bottom of the ocean. Sometimes in warm weather, for reasons unknown to scientists, these micro-organisms, called dinoflagellates, multiply and rise to the surface, turning the water red. Hence the name by which the shellfish contamination is popularly known, "red tide."

The difference between the CIA's shellfish toxin and that which occurs naturally is in the concentration.

While working for the Army, Dr. Edward Schantz, a University of Wisconsin chemist and world authority on shellfish toxins, discovered a method for extracting the toxin from a gland in the shellfish, usually clams, so that when purified

and concentrated minute amounts of it are lethal.

Schantz, who testified yesterday before the Senate intelligence committee, said that injecting two-tenths of a milligram—a drop the size of a pinhead—of the concentrated toxin would kill a human being in 10 seconds. In contrast, according to one of Schantz's researchers, it would take five-tenths to one milligram of the toxin in its natural state to kill a human.

The absence of recorded deaths from contaminated shellfish is probably the result of constant federal and state monitoring of harvest waters.

Signs often are posted along the coastline by health officials warning not to dig for clams and such shellfish as mussels and oysters because the water is polluted and the shellfish are contaminated.

According to an FDA official, it is rare for other shellfish — such as lobsters, crab, scallops or periwinkles to be a source of poisoning.

The "red tide" is found off the East and West coasts, in the Bay of Fundy in Canada and in other coastal waters worldwide. Every summer, shellfish harvesting is prohibited in the Bay of Fundy because of "red tide," according to a scientist at the National Marine Fisheries Service.