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## Reaping a Harvest of Death in Southeast Asia

By PAUL ANDERSON

BANGKOK, Thailand

HE SOUND of a jet airplane high overhead was the first hint of the disaster about to befall Seng Pao Moua and his fellow villagers.

The day was cloudy and Seng Pao Moua, a 32-year-old Hmong tribesman, said later he could not see the plane as it made a single pass over the (rice) paddy where he was working in the highlands of central Laos.

About five minutes later, evidence of the plane's passage filtered to earth in the form of a yellow cloud "wet like rain but with a different feeling."

The sticky yellow substance clung to everything it touched and "felt like chillies" on the skin. It later dried to a yellow powder.

Seng Pao Moua told officials investigating reports of chemical warfare that he did not know what was in the "yellow rain" that fell on his mountain village about 75 miles northeast of the Lao capital of Vientiane on April 3, 1982.

What he does know is that more than a dozen villagers died following the incident, along with many pigs, chickens and edible plants. He himself became violently ill for a

The events described by Seng Pao Moua and others who have fled Laos for the safety of refugee camps in northern Thailand are part of a growing body of evidence suggesting repeated chemical attacks against the Hmong hill tribe people of Laos.

The reports, combined with similar ones from Cambodia and Afghanistan, have led the United States to charge that the Soviet Union and its client states in Asia are waging chemical and biological warfare against unsophisticated and unprotected people in remote areas of the world.

The Soviets are using the chemicals themselves to fight Moslem insurgents battling Moscow's 105,000 occupation troops in Afghanistan, the Americans charge.

In Indochina, Washington says, the Russians have given the chemicals to the Vietnamese for use against Cambodian rebels and to the Communist Pathet Lao regime in Vientiane to help subdue the fiercely anticommunist Hmong.

Washington also charges that Moscow and its allies have introduced deadly poisons called mycotoxins which bring gruesome and agonizing deaths to their victims.

Mycotoxins are fungal growths or molds that occur naturally in temperate areas of the world on cereal grains left in the field during winter and subjected to repeated freezing and thawing in the spring.

The deadly toxins produced by the fungus are called trichothecenes, or T-2 and HT-2, and it is these substances that the United States charges are the foundation of the biochemical poisons used in "yellow rain" in Laos, Cambodia and Afghanistan.

In his 1981 book, "Yellow Rain: A Journey Through the Terror of Chemical Warfare," author-journalist Sterling Seagrave wrote of the new poison:

"The most powerful Soviet superpoison, The most powerful Soviet superpoison, the one that was killing so many people in Laos and Afghanistan, remained to be positively identified, but it appeared to be a compound of T-2 toxin drawn from groups of poisonous fungus that have plagued Russia for centuries.

"It is one of the grimmest killers that the world has yet seen — a biological poison ap-parently modified in the laboratory to speed its intake, taken combined with related biotoxins to enhance its potency.

Although the substances allegedly involved in an untold number of deaths among the Hmong of Laos, Cambodian guerrillas and Afghan rebels have been tentatively identified, there is little solid evidence of their was a viscous and account of their viscous and account of their viscous and account of their viscous accounts. their use as weapons and even less proof of Soviet involvement.

American scientists have detected trace elements of T-2 and HT-2 toxins in blood and urine samples of "yellow rain" victims and vegetation allegedly brought from the sites of attacks.

But the problem of verification is the crucial issue dividing those who profess belief in the American charges and those who either scoff or have yet to be convinced.

"You can take blood samples, urine samples, get HT-2 and T-2 toxins, get traces, etc, etc, but until you have that concrete murder weapon you're not going to convince people, and even then you're going to have a problem," said a Canadian diplomat involved in the investigation of chamical most in the investigation of chemical warfare

But the isolation of areas where attacks are said to have occurred, the lack of technological sophistication of its victims and the nature of chemical warfare itself have combined to thwart investigators seeking hard

"With chemical warfare, there is rarely any trace," Seagrave said in his book.
"There are few equivalents to the smoking

gun or tire tracks.

of certain enzymes, these clues may just as easily be missing, dissipated by wind or rain, metabolized by the body, or diminished by the passage of minutes or hours.

The special appeal of the third-generation killing agents is that they leave no de-tectable traces at all."

Asked what he thought would provide Asked what he thought would provide sufficient proof of the use of mycotoxias, the Canadian diplomat said: "What the Americans need to prove this is for a pilot flying one of those planes equipped with spray nozzles to defect to Thailand with tanks full of yellow rain. Anything less than that I'm not sure people will believe."

According to reports, several types of chemical agents have been used as well as various delivery systems for the poisons.

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Accounts of witnesses and victims led American investigators to conclude that at least four different agents had been used against the Hmong and Cambodian rebels
— nerve gas, irritants such as phosgene and
mustard gas, tear gas and other non-lethal
riot control agents, and the "yellow rain" substance, later identified as mycotoxins.

These were delivered as gas in many colyellow, white, black, red and blue usually by spraying from an airplane or helicopter or through artillery and mortar rounds, the U.S. reports said.

Some victims' symptoms indicated mixtures of various agents were used on occa-sion, making identification of the mysteri-ous yellow agent more difficult.

The identification of mycotoxins as the major component of "yellow rain" was made originally by scientists comparing the symptoms of victims with the known effects of the poison on humans and animals, an American report stated.

If confirmed, these attacks would be the first known use of mycotoxins in chemical warfare, which previously was "limited" to nerve agents and irritants such as mustard

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In an interview with Canadian scientists and diplomats at the Ban Vinai refugee camp in Thailand, Seng Pao Moua described the effects of "yellow rain."

"Seng Pao Moua vomited with blood for about one hour (after the chemical spraying)," the Canadian report said. "He felt nauseous, had chest pains and breathing difficulties, swollen eyes and a runny nose.

"He experienced blurred vision and could not see objects up close. His throat was sore enough that he could not drink or eat. Seng Pao Moua felt deaf for one night and continued to have diarrhea with blood for six days.

"His wife and four children exhibited the same general symptoms but remained in Laos. Seng Pao Moua thought the reason he did not die was that he amoked a great deal of opium.

"Seng Pao Moua personally saw about 16 people die in his village. They either died the night of the attack or during the following day. The first to die were babies, then middle-aged adults and some very old persons. All had vomited with blood and had diarrhea with blood. There were many other affected villagers who did not die.

"At the time of interview (more than a month after the attack), Seng Pao Moua still had difficulty in breathing and had a painful chest. His skin in the affected areas was very itchy and sometimes felt as if it were burning. He still felt tired and had no appetite."

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The United States has issued two major reports on chemical warfare since former Secretary of State Alexander Haig charged in a Sept. 13, 1981 Berlin speech that Washington had physical evidence of the use of lethal mycotoxins in Southeast Asia.

The first report, issued last March 22, said eyewitness testimony, scientific evidence and intelligence reports "provide compelling evidence that tens of thousands of unsophisticated and defenseless peoples have for a period of years been subjected to a campaign of chemical attacks.

A second report in November included evidence of mycotoxin contamination of two Soviet-made gas masks from Afghanistan and the presence of trace elements of T-2 toxins in the blood of Khmer soldiers reportedly killed in "yellow rain" attacks in Cambodia.

Except for strong denials by the Soviet Union and Vietnam, the American reports have failed to generate an international outcry of any magnitude.

"I don't know why for sure," said a Western diplomat in Bangkok. "Maybe the public just gets used to this kind of thing and there's not the same horror of chemical warfare that followed its first battlefield uses in the trenches during World War I.

"But I think in many ways it has to do with where it is taking place. It's a complicated issue and it's happening far, far away in places lots of people don't know anything about. It's easier to ignore it."

An American source involved in compiling information on chemical attacks in Southeast Asia acknowledged there has been little international support for the U.S. position.

"Chemical warfare is one of those issues that everyone doesn't want to talk about," he said. "We have tried to get other countries interested but response hasn't been very good."

Paul Anderson is a reporter for United Press International.