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MEMORANDUM FOR: Deputy Director of Central Intelligence

FROM: Robert L. Foord
Director of Scientific and Weapons Research

SUBJECT: CBW in Southeast Asia ("Yellow Rain") (b)(3)

1. Action: No action required, for your background use only. (b)(3)

2. Based on a wide variety of information, collected since 1975 from all sources, the Intelligence Community concluded in 1981 that the Soviet Union had supplied lethal chemical and toxin weapons to its allies in Laos and Cambodia and assisted in their use from 1976 through 1982. The Intelligence Community judged that trichothecene toxins were only one of several chemical/biological agents in use; however, only trichothecene toxins were identified by sample analysis. As a result, the subject of toxins as Soviet-supplied warfare agents received a great deal more attention than the overall finding that chemical/biological agents were used -- probably because the use of these toxins in warfare is clearly prohibited under the Biological Weapons Convention. (b)(3)

3. In late 1981 the US Government in a public declaration raised the probability that the trichothecene class of mycotoxins was being used in Southeast Asia and accused the Soviets of giving the toxins to Laotian and Vietnamese forces for use against H'Mong tribesmen and resistance fighters. This declaration was keyed to the first sample analysis that showed the presence of trichothecene toxins. In February 1982, the Intelligence Community published a comprehensive compilation of the data and our analysis. Subsequently the use of trichothecene toxins was widely publicized by the US Department of State in unclassified versions of the Intelligence Community report and by numerous magazine and newspaper articles and other news media. (b)(3)

4. Professor Matthew Meselson of Harvard University was a leading critic of the US finding that trichothecene toxins were used as warfare agents and were supplied by the

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Soviets. He has for the past several years criticized the methodology and conclusions of the US regarding its charges of chemical and toxin warfare in Southeast Asia. Professor Meselson was a technical representative and negotiator for the 1972 Biological Weapons Convention with the Soviets, and argued at the time that strict verification provisions were unnecessary; that it would be obvious if biological agents were being used. Use of mycotoxins (and other agents) in Southeast Asia has shown this to be incorrect. Dr. Meselson has responded by attempting to prove that the US Government's case on "Yellow Rain" is wrong, thus preserving the credibility of his earlier position. (Dr. Meselson also tried to show that the US did not have a case for accusing the Soviets of treaty violations in the Sverdlovsk/anthrax accident.) [redacted] (b)(3)

5. Dr. Meselson proposed his now widely publicized bee feces theory which is presumably based on the media term "yellow rain" and the fact that bee pollen was present in two of the five environmental samples containing trichothecene toxins. [redacted] (b)(3)

6. We and other agencies in the Government have not accepted the bee feces theory because:

- Bee droppings do not contain the man-made chemicals found in many yellow spot samples collected by intelligence sources from sites of attack identified by multiple sources.

- Showers of bee feces are not known to produce any illness in man or animals, but other chemical substances collected in Southeast Asia from attack sites have been reported to cause disease in both.

- The original leaf and stem sample in which trichothecene toxins were found did not have any of the yellow spots characteristic of "Yellow Rain."

- Bee droppings are not only yellow as Dr. Meselson claims, but are mixed in color--from whitish to brown and do not affect vegetation. In contrast, the chemical spots observed in Southeast Asia and associated with chemical/biological warfare attacks did injure vegetation. [redacted] (b)(3)

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7. Dr. Meselson spent some time in Thailand in attempting to prove the validity of the "bee feces" theory. He reported that during a trip to northern Thailand he and a colleague, Dr. T. Seely, had "good fortune" when they experienced a bee feces shower. While this incident corroborates a well known fact that wild honey bees occasionally go on massive cleansing flights, it does nothing to associate trichothecene toxins with the bee feces. Dr. Meselson experienced no ill effects from their contact with the substance they encountered in Thailand. Dr. Meselson did not report on finding any trichothecene toxins or other possible toxic agents in samples he collected and analyzed. (b)(3)

8. In addition to his bee feces theory, Dr. Meselson suggested two other possible reasons that the US Government was mistaken in the assessment of trichothecene use.

- That because there are so few positive results and they come mostly from one laboratory, simple lab error can explain the appearance of trichothecenes. (b)(3)

- A natural occurrence of trichothecene toxins in Southeast Asia may explain some of the positive identification in the samples. (b)(3)

Both of these suppositions are clearly invalid for the following reasons:

- Dr. Meselson was correct in stating that positive results came mostly from one lab... funds were not available for duplicate analysis. Trichothecene toxins, however, were identified by three highly qualified and respected scientists associated with three different universities in the US. (b)(1) (b)(3)

- While natural producers (fungi species) of trichothecene toxins do exist in Southeast Asia (as they do almost everywhere in the world), we do not know of any naturally occurring diseases due to these toxins in the natural environment. Trichothecene toxins were only found in environmental samples taken from alleged chemical attack sites. Environmental control samples

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taken from ecologically similar non-attack sites tested negative for these toxins. Biomedical specimens taken from 26 alleged victims of chemical attacks showed the presence of trichothecenes. Control specimens taken from individuals consuming the same food sources as the victims but who had not experienced a chemical attack have all been negative for trichothecenes. The particular toxins that were identified in laboratory analysis of environmental and human tissue samples do not appear naturally in these combinations and concentrations.

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Robert L. Foord

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Distribution:
1 - Addressee
1 - Executive Registry
1 - DDI
1 - ADDI
1 - DDI Registry
1 - OSWR Chrono

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[redacted] (14 September 89) (b)(3)

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