

UNITED STATES GOVERNMENT

Memorandum

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TO : Mr. Moffett

DATE: October 20, 1970

FROM : Lars H. Hyde *LHH*

SUBJECT: Briefing by Matt Meselson on Herbicides

1. Dr. Matthew Meselson of Harvard University briefed yesterday under INR sponsorship on his five-week visit to Viet-Nam this August to study the effects of defoliation on the country, under American Association for the Advancement of Science's Herbicide Assessment Committee. The briefing was unclassified, illustrated with slides, and represented preliminary and tentative conclusions. As you know, Dr. Meselson had good cooperation from the American Mission in Viet-Nam during his visit. I took fairly careful notes on the meeting and present them fully to you, although much of the information may already be familiar to you.

2. History

a. Before World War II a Dr. Krause at the University of Chicago began work on chemicals for crop destruction. The work was later moved to Ft. Dietrich in Maryland. During World War II proposals were made to destroy crops on Japanese islands in the Pacific, but they were always rejected, perhaps because of the opposition of President Roosevelt's Military Advisor Adm. Leahy.

b. After World War II chemicals were used to kill weeds, under brand names such as Weedone. Today 90% of corn acreage is dusted with chemical weed-killer.

c. During the Korean War the military wanted to use chemical defoliant to clear away underbrush around their positions and prevent infiltration, but it was never approved.

d. In 1961 President Kennedy approved defoliant to clear underbrush away from lines of communications (LOCs), on the proposal of ARPA, in Viet-Nam. The Diem Government was initially opposed but later came around.

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e. Beginning in 1964 the defoliation program was greatly increased and President Johnson authorized crop destruction.

f. Later, on Gen. Westmoreland's recommendation, defoliant was used to clear large jungle areas where enemy troops were known to hide. This was used particularly extensively in MR 3, in War Zones C and D and along the Cambodian Missions.

3. Procedures for Approving Defoliation Missions

a. It takes months to get a defoliation mission approved. For fixed-wing missions, requests are initiated at U.S. or ARVN division level and consist of a map with a "target box" within which defoliation authorization is requested, although not all the target box is likely in fact to be defoliated. The request then goes to the Province Chief and Province Senior Advisor. Gia Dinh and Vinh Long Province Chiefs never approve any missions, but it is generally understood that few province chiefs have the clout to make this stick if the Division and Corps Commanders want it. Then it goes to the RVNAF Corps Commander and the U.S. Field Force Commander and then to the RVNAF Joint General Staff who officially requests the mission by letter. In MACV, J309 is responsible for the paperwork. The Mission's so-called 203 Committee (Embassy Pol-Mil, Embassy-USAID, Econ, USAID Refugee (sic), JUSPAO, J-3, J-2, and Psyops Directorate) reviews the request.

b. Guidelines under which the 203 Committee works are as follows: the target box cannot be in friendly territory; it must be three kilometers from friendly crops; there must be preparation for refugees created by the mission; there must be psyops preparation of the people likely to be affected. Broader considerations such as popular reaction to the defoliation mission are out of order.

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approximately

c. Meeting about every two months and ruling on several requests at each meeting, the 203 Committee normally OKs 90% of the recommendations unanimously. Where there is dissent, the Embassy Pol-Mil Officer (now Terry Grant) writes up the differing views. The papers then go to the Ambassador, who must approve.

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d. After the Ambassador's approval, implementation is left to MACJ 309, the JGS, MACJ 309 again, and the 7th Air Force who has the assets. The 7th Air Force prizes its remaining C-123s and will not fly them on defoliation missions unless accompanying gunships lay down 300% suppressive fire. Forty-eight hours before the mission is flown, the Province Chief and PSA get the word and can try to stop the mission if conditions have changed since the request was made - for example, if the target box is now also targeted for pacification.

aircraft

e. It should be noted that defoliation by helicopter can be approved at division level without the clearance procedures outlined above. Helicopters have a 200 gallon capacity and can cover 60 acres per mission.

4. Statistics

approximately 20%

about

As of the end of 1969 an area the size of Massachusetts has been defoliated, including 30% of the dense forests of Viet-Nam, 50% of its mangroves, most of the roadsides along important LOCs, and 600,000 acres of cropland, which would have provided one million man-years of food. There have been 25-30,000 fixed-wing sorties, generally by C-123s which have a capacity of 1000 gallons and can cover a 300 acre area per sortie. About five C-123s have been shot down in the course of defoliation missions.

5. Controversies

a. Other than the Army Chemical Corps itself, even military men are not really enthusiastic about defoliation. They use tempered expressions like "it tends to be useful" in describing its military value.

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(1) Defoliation of an enemy jungle or mangrove base area may force redeployment of enemy forces into a populated area where they are more immediately dangerous; at least this must be taken into consideration when planning defoliation missions;

(2) Defoliation of roadsides may push the cover back to a distance which is optimal from the point of view of ambushers; from which they can see convoys which are still within rifle range, faster than the convoys can see them. (Comment: In MR 3 Rome plowing is now much more popular than defoliation as a way of clearing LOCs, both because it clears roadsides more completely and because it does not as yet require such exhaustive clearances.)

Request of dense ground cover in 51 yr.

(3) Crop destruction may not be a significant factor in depriving the enemy of food if the laxity of controls allow him to buy it from the GVN side, or he can supply himself from Cambodian or Laotian sanctuaries.

b. There are many non-military considerations against defoliation.

(1) no matter what the Chemical Corps says, drift of defoliant from fixed-wing aircraft is a big problem. Controls are not nearly as tight as they are in the United States, for security reasons. There have been real drift problems up to 20 kms away from intended target boxes.

(2) many farmers have been hurt by defoliation, and many more blame defoliation, and those who defoliate, for other farming problems, creating a psyops problem which is likely to stay with us as long as defoliation continues.

(3) U.S. Forestry Service people, in their contribution to the Embassy's 1968 review of defoliation (the only one ever done) estimated that half a billion dollars in potential exports of hardwood have been destroyed or prevented from growing.

GVN tax revenues.

This represents only the current stumpage tax value to the government.

the loss to the forest industry and the potential export loss are not included.

(4) Questions about the compatibility of the defoliation program with the Geneva CBW Convention have aroused some U.S. and world public opinion against the program.

6. Meselson's Slides

a. Mangroves - extensive study of the Rung Sat Special Zone indicates that almost nothing has grown there since defoliation ended in 1967. Apparently mangroves are especially susceptible to defoliation. //

b. Jungles - the slides showed that in War Zone C after defoliation missions, bamboo and tough grass was replacing the hardwood trees. //

c. Crop Destruction - Dr. Meselson visited two valleys in Quang Ngai which were cited to him by the Army Chemical Corps as examples of effective missions. There was little question that the defoliant used destroyed the crops, but very serious question whether the crops being grown were excessive and were being given to the VC. One mission drove the montagnards out of their valley, and they claimed it caused the death of some babies. They believed the valley had been made evil by the defoliant, and they slaughtered all their water buffalo and underwent an intensive purification ceremony themselves. Meselson's visit was the occasion for the Chemical Corps man to come along and take pictures with his Instamatic, to gather information for an after-action report. Conceding that he had never been a supporter of crop destruction, Meselson concluded that the trip has strengthened him in his opposition to it. The 1970 defoliation plan, which in fact is scheduled to be carried out in 1971, has target boxes including 73,000 hectares including 14,000 hectares of cropland. If only half of that is defoliated, the food supply will be reduced by 35,000 people-years. There are no after-action reports and, in the homeward-bound atmosphere of MACV, no interest in studying the matter. Two 1967 ARPA studies were critical of crop destruction. Crop destruction seems to be a program with minimal military value which has developed its own momentum.

For Quang Ngai
and Quang Tin

15,000 tons
of food.

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7. Types of defoliant

a. Blue is the most popular defoliant, at \$1 a gallon with fairly general effects on most green plants. It has never been licensed by the Dept. of Agriculture for use in the States.

b. White is \$7 per gallon and its stocks in Viet-Nam are being used up. One element of White is used in the U.S. but if residues of that element are found on food, the food is banned. The other element, Tordone, is not licensed in the U.S. due to its persistence. *2,4-D* *top*

8. Future Plans

✓ a. Meselson is continuing research on hair samples, fat *mother's milk* samples, and other evidence brought back, in order to figure out how to determine the effects of defoliant on health.

b. His study on the effects on plant life is proceeding and will be ready for the annual AAAS Convention in late December. It will be more quantitative and specific than ARPA's 1967 studies or the Mission's 1968 review, and will have the virtue, as he sees it, of coming from an independent agency rather than from within the government.

c. On December 29 there will be a symposium on this subject at the annual AAAS meeting in Chicago.

d. AAAS is studying with the National Academy of Science the possibility of a contract to do a further study on this issue, which is required of DOD by the FY 1971 Military Procurement Bill. AAAS will renew its request to DOD to declassify information about past herbicide missions.

e. The AAAS Council has already come out against the whole herbicide program in Viet-Nam on many occasions, but maybe this time the Board of Directors, the association's more exclusive and higher body, will take a stand against it.

cc LtC Storey
INR/REA/SA - DEBrown

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