

8 May 1970

DISPOSAL OF WHEAT RUST STOCKS

Extensive plans are being made to decontaminate plant BW agents in accordance with President Nixon's public statement on destruction of BW agent stocks. These plans are both unnecessarily complicated and expensive and should be reviewed carefully before implementation.

For example, the disposal of wheat rust spores, this live organism grows in most parts of the US. Normally the spore material winters over in Mexico or other areas of the south that are free of frost. Temperatures below 28°F will kill it promptly. Its life in nature, particularly spore 15B, winters over in Mexico on Barberry bushes and in the spring when it first germinates is blown north infecting wheat in the boot stage starting in Texas and proceeding to Oklahoma, Missouri, North Dakota, South Dakota, and up into Canada. During the winter all the spores are killed by freezing temperatures.

This migration of spores happens every year and infections of the wheat fields are better or worse depending on the type of weather. This spore needs warm dew to germinate just at the time wheat has reached the boot stage. If all the conditions for growth are not just right the spore dies and a good crop of wheat results. Most American wheats are resistant to these spores and therefore are not badly affected. If the wheat is past the boot stage the wheat rust spore does not greatly affect the wheat yield. The wheat rust spores we are talking about are not a very virulent type but one that is effective on the nonresistant strains of Russian wheat. A great many tons of these spores were grown on various locations (six) around the country but on a time cycle when the surrounding local wheat would not be affected as it had past the infective stage. All these factors have been considered by the Department of Agriculture and the Army has their full cooperation and clearance for this operation. It should be remembered that more tons of spores remained in the field than were ever collected during harvesting and there are thousands of times more spores grown naturally than grown by the Army each year.

Wheat rust is the material in our stockpile storage and the material to be disposed of. If the temperature in storage is not kept constant at 36°F and spores not stored under nitrogen or the spores become damp, the spores die. All spores gradually die anyway due to age and the stocks must be replaced. Tons of these depleted stocks have been buried at Rocky Mountain Arsenal over the last 15 years. If it is desirable to dispose of spores commercially, the wheat is treated with ethylene oxide which kills the spores as well as the mice and rats in the wheat. Large quantities of wheat are treated this way every day in box cars and elevators prior to milling.

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If it is desired to dispose of stocks of wheat rust spores and salvage the containers and equipment, there are a variety of ways to do it very inexpensively:

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| 1. Treat with ethylene oxide at the present point and spread and disk under on the land used to grow the spores: | \$ 80,000 |
| 2. Slurry with water, with disposal on the field where the spores were grown and disk under: | 200,000 |
| 3. Hold till winter at 0-30° F temperature and spread preferably on snow and disk under in the spring: | 70,000 |
| 4. Slurry with fuel oil and burn in a furnace during winter in the normal combustion of fuel: | 80,000 |
| 5. Turn off refrigeration and turn up building heat for a month and wet down in the fields where it was grown and disk under: | 70,000 |
| 6. Spread on field in fall with a fertilizer spreader and plow or disk under: | 80,000 |

Any of the above methods can be used and viability tests run before field disposal.

7. Method recommended by Special Task Force: \$3,300,000

If a review of the above proposals with a savings of over \$3,000,000 is to be confirmed, it is suggested that the experts in the field be consulted:

1. Dr. Charles E. Minarik. The developer and principal expert on antiplant warfare, located at Fort Detrick, Maryland.
2. Dr. Riley Housewright. The Director of Biological Laboratories, Fort Detrick, Maryland.
3. Mr. Eli Vuicich. Project Manager for production of this agent for many years, located at Edgewood Arsenal, Maryland.
4. Louis E. Garono. Farmer and a troubleshooter for the project, located at Edgewood Arsenal, Maryland.
5. USDA Representative located at Fort Detrick, Maryland.

This review is being recommended in accordance with USAMUCOM and USAMC guidance given in attachments.

2 Incl

1. Ltr dtd 2 Oct 69
2. Ltr dtd 12 Nov 69