

DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY  
HARVARD UNIVERSITY



7 Divinity Avenue  
Cambridge, Massachusetts 02138

January 20, 1982

Dr. Chester Mirocha  
Department of Plant Pathology  
University of Minnesota  
St. Paul, Minnesota 55108

Dear Chester:

I enclose some items dealing with the use of tricothecin prepared from *Tricothecium roseum* as an anti fungal agent for aerial dissemination over crops and forests. They raise the question of whether "yellow rain" contains tricothecin at levels higher than those found for the mycotoxins you have already detected. By the same token it would also be interesting to know if *Tricothecium roseum* makes DAS, T-2, nivalenol and deoxynivalenol. It would be good to have the strain of *Tricothecium roseum* used in the Soviet Union for this purpose. Maybe Joffe could help.

Jarvis told me that the sample of yellow rain he received was nearly completely soluble in methanol. This suggests that the sample may have been more or less pure yellow rain, relatively uncontaminated with sand, leaf matter, etc. (plant resins could be a complicating factor). If the material was indeed pure yellow rain, not highly modified by differential leaching, microbial action, etc., then it is of interest that the detected mycotoxin levels were only in the parts per million range. Perhaps this means that yellow rain is produced not for its content of the mycotoxins yet detected, but rather for some unidentified component, possibly tricothecin. Indeed, at only a few parts per million I cannot see how the mycotoxins as yet detected could possibly account for the reported symptoms without postulating totally unrealistic deposition densities.

If you should look for tricothecin in yellow rain, I would very much appreciate knowing the result.

Sincerely,

Matthew Meselson  
Professor of Biochemistry

MM:mp

cc: Emen 12/82