

STANFORD UNIVERSITY  
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Warning

DEPARTMENT OF BIOLOGICAL SCIENCES

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ONTJOM Culture

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DEAN  
SCHOOL OF SCIENCE

Dear Ruth (and Bill, when he returns):

I'm writing about a series of Neurospora intermedia stocks, numbers FGSC 2257 through 2562. You may soon start getting requests for these stocks, if you haven't already, from people who aren't connected with research laboratories. I think you should not send them these stocks without a specific decision from Ray. Let me explain why.

These stocks were deposited by Ho Coy Choke in Malaysia, and are the strains used for making ontyam (onchom), an Indonesian foodstuff made by growing Neurospora on peanut presscakes or soybean wastes. It is then fried or used in various recipes. There's a new book out by William Shurtleff and Akiko Aoyagi called The Book of Tempeh, which is mostly about tempeh (similar to ontyam, except it is made with a different fungus, Rhizopus). The "Professional Edition" of this book has an appendix on ontyam, telling how to make it and listing FGSC as a source of starter cultures, giving the above stock numbers. It also lists an NRRL culture; that one is listed "for scientific research only", but that clause doesn't appear to apply to the FGSC cultures.

The book is designed to urge people to make their own tempeh and ontyam, both for their own use and to sell commercially. This is a laudable objective if it can be done safely. (You can feed many more people on a given amount of grain and soybeans, if the grain and soybeans are eaten directly rather than being turned into meat.) The trouble is that ontyam (and tempeh) contain not only Neurospora (or Rhizopus), but also a lot of bacteria, plus a few yeasts. These "good" bacteria are in the starters used in Indonesia, and they evidently keep down the growth of harmful bacteria which could cause food poisoning. However, the cultures people get from FGSC probably won't contain these good bacteria, because, even if they were in the cultures Ho deposited (which isn't clear), the bacteria are not likely to survive in silica gel. Even if you use lyophils, the bacteria and Neurospora may be recovered in the wrong proportions. The book does warn of the danger of food poisoning in connection with tempeh (see enclosed xerox), and suggests ways to prevent growth of unwanted bacteria, but, when you encourage amateurs to get involved in something like this, as the book does, there's a clear danger that one of them is going to do it wrong.

So the question is, does FGSC want to get involved in something that could cause loss of life, lawsuits, and conceivably loss of FGSC's funding? The people who now make tempeh commercially could possibly get mixed onchom cultures direct from Ho, and act as distribution centers for them in this country, without having to go through FGSC and silica gel. This would minimize the risk of food poisoning and get FGSC off the hook.