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Docket No. 00N-1396 & Docket No. 00D-1598
FDA Commissioner, Dockets Management Branch (HFA-305)
Food and Drug Administration
5630 Fishers Lane, Room 1061
Rockville, MD 20852

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Dear FDA Commissioner:

As a scientist, formerly at New York University and Columbia University, with grandchildren, I am immensely concerned about the lack of impressive technology with which the FDA handles GENETIC ENGINEERING (GE). I am sure you are aware that a gene can be cut precisely from an organism but the insertion of the gene into another organism occurs at random and may change the functioning of the second organism in unforeseen ways. The transference is rather like eating with a shovel rather than a spoon. All genome changes carry with them a risk of mutation because even geneticists understand very little about the causes of mutation and phenotypic results from genotypic changes. (Genetics was my research field at NYU.)

One of the problems in farming only with GE seeds is that all seeds will be identical and, therefore, if a fungus or other pest attacks the GE plant and kills one, they will all die. One of the fundamental biological truths is that the genotype must vary so that if a disease attacks and kills one type, there will be others with different genotype which will survive. In nature wind, insects and birds can carry the GE seeds into neighboring fields where hybridization can occur and all crops are vulnerable.

GE uses material from organisms that have never been in human food before. Without long-term testing no one knows if these foods are safe. GE may cause unexpected mutations which can increase the toxicity of foods, or cause them to act as antigens. GE can also act as a mask for old food and make it look young and fresh on the grocer's shelf.

One of the worst problems with GE is that farmers may make the food more resistant to disease by introducing antibiotic-resistance from bacteria in GE cells, which are then consumed by man. If someone has consumed food containing the cells resistant to the antibiotic and then is attacked by the donating bacteria the consumer's immune system no longer can function to rid him of the invading bacterium. Side effects of GE bacteria can kill people: 37 people died, 1500 were somewhat paralyzed, and 5000 were temporarily disabled by a tryptophan containing bacterium which was genetically engineered.

There are also dangers to the environment from G. Farmers will use more pesticides because they know their crop is herbicide resistant from GE. GE crops also manufacture often their own pesticides which man then ingests. GE organisms

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may out compete its wild relatives(This has occurred with salmon bred on fish farms) which may cause unforeseen changes in the environment.

Once GE organisms, bacteria, and viruses become part of our environment it is impossible to recall them.

I could continue almost indefinitely with the dangers inherent in GE, but I hope this outline will help you to realize how dangerous to our well-being GE is. In fact Europe has banned it.

Sincerely yours,

Frances M. Perlman, P.O. Box 293, West Paris, Maine,04289, U.S.A.