

March 21, 2002

Sir John Krebs
Chairman
Food Standards Agency
Aviation House
125 Kingsway
London WC2B 6NH
United Kingdom

Dear Mr. Chairman:

Attached, for your review, is a complaint the Centre for Science in the Public Interest (CSPI) filed recently with the United States Food and Drug Administration (FDA) regarding the Quorn-brand line of so-called “mycoprotein”-based meat substitutes. Quorn products are produced by Marlow Foods, Ltd., a division of AstraZeneca.

Our complaint to the FDA describes how the label claims on Quorn packaging deceive consumers about the source of the product’s key ingredient, mycoprotein. We also note that Marlow Foods has not done an adequate job testing the product for allergenicity.

On the labels of Quorn products sold in the United Kingdom (and possibly elsewhere in the EU) and in advertising on the Internet at www.quorn.com, the company either hides from consumers the source of “mycoprotein”—a term with which few consumers are familiar—or falsely indicates that mycoprotein is related to mushrooms or plants. In fact, mycoprotein is a chemically treated fungus. For instance:

* Quorn brand Quorn Pieces states on the back of the label that mycoprotein is “mushroom in origin...” This is an affirmatively false claim, as Quorn is certainly *not* mushroom in origin.

* Quorn brand Crunchy Quorn Fillets bears a front-label statement declaring “delicious meat-free fillets made from succulent Quorn mycoprotein,” but nowhere does the label inform consumers of the source of Quorn.

* Sainsbury's brand Quorn Tikka Masala states on the front of the label "pieces of Quorn mycoprotein in a Tikka Masala sauce," but nowhere does the label inform consumers of the source of the mycoprotein.

* Quorn's British web site misleadingly states "It is mushroom in origin" and from "a plant occurring naturally in soil, and growing in a field near the village of Marlow," but again, does not inform visitors that Quorn is made not from mushrooms, but from fungus. Fungi are not plants. (<http://www.quorn.com/uk/fiabout.htm>)

The mycoprotein ingredient in Quorn is not a mushroom, nor was it ever a mushroom at some earlier stage in the manufacturing process. In fact, two *Food Technology* articles about the production and marketing of mycoprotein—written by Marlow Foods employees—never once even use the word "mushroom."

Mycoprotein is derived from *Fusarium venenatum*, a fungus in a completely different phylum from mushrooms. Though all mushrooms are fungi, not all fungi are mushrooms—and *Fusarium* is not a mushroom. (No fungi, of course, are vegetables.) According to Professor David M. Geiser of the Fusarium Research Center at the Pennsylvania State University, *Fusarium venenatum* "is not a mushroom in any way shape or form. While it is true that *F. venenatum* and mushrooms are both fungi, calling *F. venenatum* a mushroom is analogous to calling a rat a chicken because both are animals."

Another mycologist, Professor Kathie Hodge of Cornell University, says *Fusarium's* taxonomic relationship to mushrooms is analogous to humans' relationship to jellyfish. Quorn's claim of some kind of mushroom "origin" is false on its face and should be disallowed on Quorn labelling and in advertising.

CSPI is also concerned that mycoprotein may cause allergic or other type of adverse reaction. The products' track record in the United Kingdom indicates that the products do not cause a large number of severe allergic reactions. However, it is likely that there is massive under-reporting of adverse reactions. Still, the small number of complaints of adverse reactions made to Marlow Foods is reason enough to ask U.S. and European authorities to require the company to test whether any of the novel proteins in mycoprotein share properties of known allergens. (Certainly in the case of genetically engineered foods, even tiny amounts of just a few new proteins, which had not been proven to cause allergic reactions, have kept products like StarLink corn off the market in the United States.) Quorn is introducing hundreds, if not thousands, of new proteins into the human food supply, and they are being consumed in much larger quantities than they would be in the case of current genetically engineered foods. Also, though not noted in our complaint to the FDA, the one published scientific report on the potential allergenicity of mycoprotein did not find classic IgE-mediated allergic reactions in ten subjects

who had complained of vomiting and diarrhea.¹ The authors stated that “The possibility can not be excluded of participation of fungal polysaccharide allergens, which RAST testing would probably not detect, or of non-IgE associated mechanisms. Intolerance to ingested Quorn reported by a small number of consumers may be due mainly to an idiosyncratic response.”

We urge you to review the attached complaint. We believe that a fair review should spur the FSA to remove from store shelves products that bear deceptive labelling, due either to omission of information or affirmatively deceptive statements. Further, FSA should order AstraZeneca to conduct better safety tests.

Sincerely,

Michael F. Jacobson, Ph.D.
Executive Director

Enclosures: Letter to U.S. FDA and photocopies of Quorn packaging from the United Kingdom

¹ Tee RD, Gordon DJ, Welch JA, Newman Taylor AJ. Investigation of possible adverse allergic reactions to mycoprotein (“Quorn”). *Clinical and Experimental Allergy* 1992; 23:257-60.