Milk Protein Concentrates

You may never have heard of something called milk protein concentrates, but dairy farmers certainly have.

Unregulated imports of cheap milk protein concentrates are driving down the price of domestically produced milk and putting American dairy farmers out of business. And fewer American dairy farmers mean fewer choices for consumers, who are seeing increasing amounts of MPC’s—a new, unregulated protein source—in their food supply.

What are Milk Protein Concentrates?

MPC’s are created by putting milk through an ultra-filtration process that removes all of the liquid and all of smaller molecules including the minerals that the dairy industry touts as being essential for good nutrition.

What is left following the filtration is a dry substance that is very high in protein and used as an additive in products like processed cheese, frozen dairy desserts, crackers and energy bars. Because MPC’s are generally produced as a dry powder, exporters can ship the product long-distances very cheaply, and almost all of the dry MPC’s used in America are imported.

In the United States, an MPC is defined as “any complete milk protein (casein plus lactalbumin) concentrate that is 40 percent or more protein by weight.” This definition is a bit of a catch-all because within the milk protein market there are a variety of proteins, like casein and whey, that are manufactured differently and can have different commercial uses. The definition also makes it unclear if imported MPC’s are the product of cow’s milk or if they come from animals like yak or water buffalo that are more popular in some exporting countries. Blended milk proteins from different sources are allowed as imports under the MPC designation.

With such imprecise definitions and vague standards, it is hard to imagine how regulatory agencies manage to keep track of where this ingredient comes from and how it is used. As it turns out, they don’t have to, because MPC’s are largely unregulated.

Why It Matters Where It’s From

New Zealand is the major exporter of MPC’s to the U.S., but another dairy protein called casein is largely imported from China and Mexico, which together represent 70 percent of imported casein. Last year casein imports amounted to $61 million. Following recent scandals with food safety in China, including the melamine-tainted baby formula, American consumers have every reason to question imports of dairy products from countries where American standards cannot be enforced.

A Government Accountability Office (GAO) report on MPC’s noted that “FDA officials told us that they have little concern about the safety of dry milk protein concentrates because the products are treated with heat during pasteurization and drying, which kills pathogens.”

Pasteurization, however, cannot correct food safety problems like melamine adulteration. Increased inspections and enforcement of sanitation standards are needed to protect consumers.

Unfortunately, lax inspections have been the hallmark of the Food and Drug Administration – especially when it comes to imports. The agency currently inspects only around one percent of imported food.

Weak Regulations Mean No Consumer Protection
FDA justifies their lack of inspection by talking about how the need to encourage the industry to do better on their own, with many proposals focused on how to get industry to follow suggested voluntary guidelines and participate in self-certification schemes. One example is the method the agency uses for food additives, a process called “Generally Recognized As Safe” or GRAS.

Under GRAS, food processors who want to use a new additive can submit to the FDA information about the additive, including scientific evidence they have produced themselves. Essentially, food processors “notify” the FDA that they have determined an additive to be safe. The FDA then considers this notification—without conducting its own, independent scientific analyses—and makes a decision as to whether or not it concurs with the food processor’s opinion.

Overwhelmingly, the FDA tends to agree with the companies. In the last six years, food companies have submitted 160 GRAS additive notices, and the FDA has never once challenged the company’s GRAS finding. vii Among others, the FDA in 2005 agreed with the agribusiness corporation Tyson Foods’ finding that carbon monoxide was safe for use in packaging “to help maintain the characteristic color of fresh meat.” viii

Designed to streamline the approval process of food additives, the GRAS notification system is also voluntary, meaning that food producers don’t need to submit GRAS notifications to the FDA, nor do they need to wait for FDA agreement to start using new additives.

Even though MPC’s are considered an additive, they do not appear on the GRAS requirement list ix nor on the larger FDA list of additives, Everything Added to Food in the United States (EAFUS). x

Because the GRAS system is not a formal approval process, there is no requirement for dairy processors to submit MPC for GRAS, though it might give consumers a tiny bit of peace of mind to know that even a smattering of scientific information about MPC’s and its uses were at least on file with the FDA.

Even if MPC’s have never met the low standard of being considered GRAS, the FDA does have one mechanism to regulate their use in some dairy products. Many dairy products, like different types of cheeses, must conform to an official, FDA description about the components and/or processes used to make it, called “standards of identity.” One example is the difference between “cheddar cheese” and “pasteurized process cheese food,” which are both in the dairy case but bear different labels because they meet different standards for how they were made and what ingredients were used.

MPC’s are not allowed for use in cheese products bearing a standard of identity. While this gives the FDA a way to regulate MPC use, the agency does not have sufficient resources – or political will – to enforce these regulations. A Government Accountability Office report from 2001 showed that the FDA only inspected nine cheese plants in all of 1999. xi The GAO also reported “In 2000, Vermont state inspectors found that two cheese plants were using imported milk protein concentrates to make standardized cheeses in violation of federal and state regulations.” xii

And at the same time, scores of other dairy products—from frozen desserts to non-standardized cheese used on frozen pizzas to individually wrapped processed cheese slices — have no “standard of identity” and contain MPC’s.

MPC’s Impact on U.S. Dairy Farmers

The United States’ imports of MPC’s have doubled in the last five years, and between 2007 and 2008 MPC imports increased 66 percent. xiii This $250 million worth of milk protein, mostly arriving from New Zealand, XIV is taking over the market share long-held by American dairy producers whose highly regulated, nonfat dry milk has been a preferred dairy protein additive to cheese, ice cream and other finished dairy products made in America.
The current crisis in the American dairy industry has been widely attributed to a decreased consumer spending in the current economic downturn.\textsuperscript{xv}

Import statistics, however, clearly show another contributing factor: processors are outsourcing their dairy protein needs to foreign producers of cheap MPC’s, which leaves domestic dairy farmers with a glut of extra nonfat dry milk.

This surge in MPC imports has been helped by the very low or non-existent tariffs on MPC’s.\textsuperscript{xi} Dairy farmers would like to see tariffs increased, to protect their livelihoods and provide some assurance about where dairy ingredients are coming from.

What You Can Do:

1. Check the Label: Look for “milk protein concentrates” on the label of processed foods. If you discover MPC, don't buy it -- and don't hesitate to let the manufacturer and grocery store manager know you don’t want products that contain this controversial ingredient.

2. Urge the FDA to keep the standards of identity strong for dairy products like yogurt.

\textsuperscript{ii} Harmonized Tariff Schedule of the United States. 2009 at Chapter 4, Note 13
\textsuperscript{iv} USDA, Foreign Agriculture Service, trade database available at www.fas.usda.gov/ustrade
\textsuperscript{vii} United States Food and Drug Administration, database of GRAS available at http://www.foodsafety.gov/~rdb/opa-gras.html
\textsuperscript{ix} United States Food and Drug Administration, database of GRAS available at http://www.foodsafety.gov/~rdb/opa-gras.html
\textsuperscript{x} United States Food and Drug Administration, database of EAFUS available at http://www.cfsan.fda.gov/~dms/eafus.html
\textsuperscript{xiii} USDA, Foreign Agriculture Service, trade database available at www.fas.usda.gov/ustrade
\textsuperscript{xiv} USDA, Foreign Agriculture Service, trade database available at www.fas.usda.gov/ustrade

Harmonized Tariff Schedule of the United States. 2008 at VI, 35-3