The New York Times
September 21, 2005
California Wants to Serve a Warning With Fries
By MELANIE WARNER

Americans may have plenty of reasons to fear French fries. While they are one of the country's favorite foods, they are soaked with trans fats, loaded with sodium and full of simple carbs, the bad kind. And, it turns out, they are also full of a chemical called acrylamide, which is known to cause cancer in laboratory rats and mice.

That discovery a few years ago has raised questions about the safety of fries, as well as potato chips, which are also packed with acrylamide.

It ultimately led to a showdown this summer over whether such foods should bear health warning labels and whether companies should be required to reduce acrylamide levels in their food.

The battle pits the activist attorney general of California against the food industry and the Food and Drug Administration.

What happens over the next few months could have a huge bearing on the eating habits of Americans, and may make a dent in the bottom lines of restaurants and food companies. French fries are the No. 1 consumed food in restaurants, according to the NPD Group, a research firm.

California's attorney general, Bill Lockyer, filed suit in August against McDonald's; Burger King; Frito-Lay, owned by PepsiCo; and six other food companies, saying that they should be forced to put labels on all fries and potato chips sold in California. The proposed warning might say something to this effect: "This product contains a chemical known to the state of California to cause cancer."

The food industry, which might prefer seeing every American become vegan to being forced to put the word "cancer" on its products, is worried. Food companies argue, accurately, that scientists do not know for certain that acrylamide is carcinogenic to humans at the levels present in food. Acrylamide is not put into food, but is formed when starchy food is heated at high temperatures.

The F.D.A. is also opposed to labeling, pending its own review of the matter, which began in 2002 when scientists first discovered that acrylamide could be formed in food.

While legal specialists say the attorney general's lawsuit is something of a long shot, it is likely to spur further action. The California Environmental Protection Agency, which has also been looking at acrylamide for several years, says it will issue regulations by the end of this year. Proposals include displays of warning labels and signs in supermarkets and restaurants, as well as a total exemption for acrylamide in food - an option the food industry has lobbied heavily for but which is considered unlikely to be adopted.

Under Proposition 65, which California voters approved in 1986, the state is required to regulate chemicals that are known to cause cancer or reproductive harm and to force manufacturers to label their products or otherwise warn consumers. Acrylamide, a chemical that has a variety of industrial uses, has been on the Proposition 65 list since 1990.

In California, warning labels are currently found on products like paint solvents and fertilizer. In response to another lawsuit by the attorney general's office, supermarkets in the state recently started posting signs warning about mercury in certain fish at their seafood counters.

Were they ever to materialize, French fry and potato chip warning labels or signs would be required only in California. But among states, California has the nation's biggest economy, representing 13.5 percent of the national gross domestic product, and is often a regulatory trendsetter.

And fried potatoes are a big business throughout the country. Americans spend an estimated $4 billion a year on fries and $3 billion a year on potato chips. In addition to McDonald's, Burger King and Frito-Lay, other companies named in the suit are KFC, a division of Yum Brands; Wendy's International; Lance, which makes Cape Cod potato chips; H. J. Heinz, which produces Ore-Ida frozen potato products; the potato chip company Kettle Foods; and Procter & Gamble, which sells Pringles.

The regulation of chemicals in food has, for the last four decades, relied upon animal study extrapolation to determine risks to humans. For obvious ethical reasons, the testing of potential carcinogens is not done directly on humans; animals, particularly mice and rats, have served as proxies.

The California attorney general and several activist groups say that consumers should be given information so they can make informed food choices.

"Proposition 65 requires companies to tell us when we're exposed to potentially dangerous toxins in our food; the law benefits us all," said Mr. Lockyer, in a statement.

Edward G. Weil, California's deputy attorney general, said he was "not trying to ban French fries," but that he needed to take action in the absence of regulatory decisions by either the F.D.A. or the California E.P.A.

The attorney general's office cites a dozen acrylamide animal studies showing both cancer and birth defects, as well as the federal Environmental Protection Agency's regulation of the chemical as a carcinogen for 13 years.

The food industry and the F.D.A., meanwhile, are calling for more studies. The agency says that it has been "very active" in acrylamide research and will do a thorough risk assessment once a large-scale experiment is completed in 2007.

The controversy started when Swedish scientists accidentally discovered acrylamide in food in 2002. The chemical had long been used in the manufacture of things like grout and adhesives and to perform tasks like separating solid sewage from water.

Its discovery in food sent the international scientific community into a tailspin and ignited a debate over how chemicals in food should be regulated.

Under the Delaney Clause, which amended the federal Food, Drug and Cosmetic Act in 1958, no substance that causes cancer in either humans or animals can be added to food. But that law is normally applied to substances introduced to food, like dyes and preservatives, not those, like acrylamide, created by cooking. Frying and baking potatoes at home create acrylamide as well.

Thus, the food industry wants acrylamide treated differently from food chemicals. "Acrylamide has been present in the food supply and safely consumed since human beings discovered that cooked food tastes good," said Kristen Power, director of state affairs at the Grocery Manufacturers Association, which is leading the food industry's efforts on acrylamide. "It is in 40 percent of the calories consumed in the average American diet."

Acrylamide is also found in lesser amounts in breads, cereals, cookies and crackers, as well as roasted nuts and some vegetables that have been grilled or sautéed.

Elizabeth Whelan, executive director of the American Council on Science and Health, a group financed by the food industry, foundations and private individuals, said that in singling out potato chips and French fries, the California attorney general is applying a double standard.

Food like whole wheat toast and black olives, she notes, also have high acrylamide levels. (The chemical processing of black olives, which are not naturally black, forms acrylamide.) "This is really just another attack on what we call junk food," Ms. Whelan said.

Mr. Weil of the California attorney general's office said his office looked carefully at food consumption data before deciding which products to pursue. "If people ate as many olives as they do French fries, we'd have to be concerned about it," Mr. Weil said.

Other foods that test positive for acrylamide, like breads, cereals and peanut butter, contain the chemical at comparatively low levels, Mr. Weil said.

"When the food industry says 40 percent of the calories in the food supply have some acrylamide in it, that's true only if you count foods with even the tiniest bit," he said. "The potato chips and French fries really stand by themselves as having high levels."

Scientists say that is because acrylamide is created, generally speaking, when the naturally occurring amino acid asparagine is heated to temperatures above 250 degrees in the presence of sugars or starches. Potatoes have a lot of both asparagine and starch, and are often fried at temperatures of up to 400 degrees.

Alise Cappel, research director at the Environmental Law Foundation, a nonprofit group that recently sued four potato chip companies over acrylamide (the suit is expected to be joined with the attorney general's), says people are increasingly eating foods with acrylamide.

"It certainly has been in the food supply for centuries, but the frying of food is a relatively new cooking technique," Ms. Cappel said. "And we're eating more cookies, crackers and breads than we ever have before."

The F.D.A. is not convinced that such consumption is necessarily bad. The agency has said that warning labels on food could "confuse consumers" and create "unnecessary public alarm."

In a July 2003 letter, Lester M. Crawford, then a deputy commissioner and now commissioner of the agency, warned that any of California's attempts to regulate acrylamide could "directly conflict with federal law." The F.D.A. says it has broad authority to regulate the labels of food products.

Terry C. Troxell, director for the office of plant and dairy foods at the F.D.A., said that the agency had already spent millions financing acrylamide research. "This isn't a simple situation," Mr. Troxell said. "Acrylamide is interwoven with the way we prepare and cook our food."

Mr. Weil charges that the agency is dragging its feet. "More research is good, but we've been waiting around on our own state agency and the F.D.A., which has been studying this for three years and hasn't done anything," he said. "And they have no schedule for when they're going to do anything."

Most food companies say they will continue to follow the agency's lead. "If the F.D.A. or California's Office of Environmental Health Hazard Assessment ever changes the regulations, we will modify our standards to be in full compliance," said Jonathan Blum, senior vice president of Yum Brands.

In the meantime, companies are taking some preliminary steps to find ways to reduce acrylamide levels. Frito-Lay says it has worked with Michael W. Pariza, a professor in the University of Wisconsin's food microbiology and toxicology department, on acrylamide-reduction research.

But Professor Pariza, who is working with a consortium of 12 companies, says no one has found any clear solutions. "Anybody who thinks that companies can turn on a dime and fix this is wrong," he said.

Scientists say that a simple and sure way to reduce acrylamide in food is to lower cooking temperatures. But this approach carries its own set of problems.

"You get French fries that are really just warm potatoes," said Ken Lee, chairman of Ohio State University's food science department and a member of the F.D.A.'s advisory committee on acrylamide.

Low cooking temperatures also produce cereal that is not crunchy and crackers that are less flavorful.

"This thing is a real scientific head-scratcher," Professor Lee said.