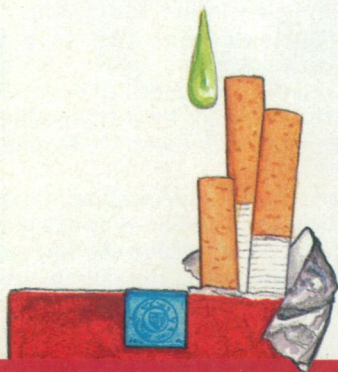


What's in a Cigarette?

Tobacco companies blend hundreds of additives into their products

By JANET RALOFF

Lime is one of the formerly "secret" ingredients used in cigarettes.



Second in a two-part series

Most people picture a cigarette as several pinches of tobacco rolled into a paper wrapper and inhaled through a filter. But as a spirited debate over cigarettes began to unfold this year, the public learned that today's cigarette typically contains a lot more than crushed leaves and paper. Indeed, the Centers for Disease Control and Prevention (CDC) reports that manufacturers use some 700 different chemical additives in their U.S. products.

By law, any tobacco company that sells cigarettes in the United States must submit its list of additives annually to the Department of Health and Human Services. However, because the tobacco industry considers these additives a trade secret, Congress stipulated that no federal official may disclose the identity of listed chemicals, regardless of how innocuous they may seem.

This federal protection also prohibits anyone who views the lists from sharing the contents with outside toxicologists or others to confirm the claim of cigarette makers that these additives pose no risk to health.

Indeed, because he was unwilling to sign the confidentiality agreement that would provide him access to the lists, Food and Drug Administration Commissioner David A. Kessler has never laid eyes on them.

Rep. Ron Wyden (D-Ore.) has not only seen the lists, he has a copy of them. At a March 25 hearing of the House Subcommittee on Health and the Environment, of which he is a member, he held up a 3.5-inch-thick black binder containing the 1992 additives and their properties.

Though restricted by the same non-disclosure provisions that would apply to Kessler, Wyden said he could note that "these lists contain heavy metals, active agents, pesticides, and insecticides." Moreover, he added, at least 13 of the ingredients on the list "are not allowed in the foods that Americans eat."

But cigarettes aren't food, so they aren't restricted to food-grade additives. And they aren't considered drugs, so they escape the safety and disclosure requirements of other consumer products regulated by FDA.

However, Wyden and the subcommittee have even more far-reaching concerns. For instance, some of the ingredients added to cigarettes are so toxic they cannot legally be dumped into a landfill — no matter how small the quantity, Wyden says. Which ones? The confidentiality provisions prevent him from saying.

Objecting strenuously to the implication that they are lacing their products with toxic chemicals, the nation's six largest cigarette makers published last month a combined listing of the 599 additives they say they now use. Steven Parrish, senior vice president and general counsel of the New York City-based Philip Morris USA, characterized the industry's decision to make this formerly proprietary information publicly available as a "response to misleading allegations recently made about the nature of [our] ingredients."

Taste is one way cigarette manufacturers attempt to distinguish their products. Though individual tobaccos vary somewhat in flavor, cigarette chemists go beyond the mere blending of leaves from different cultivars in developing what they hope will prove recipes for success. In fact, manufacturers have some 1,000 different tobacco flavorings to pick from.

Included on the publicly released list of cigarette additives are the fragrant and flavorful extracts of anise, cinnamon, molasses, dandelion roots, and walnut hulls; juices from apples, raisins, figs, and plums; black currant buds; peppery capsicum oleoresin; clover tops; nutmeg powder; vanilla; vinegar; smoke flavor; tea leaf; orange blossom water; and oils of basil, bay leaves, caraway, carrots, dill seeds, ginger, lavender, lemon, lime, pepper, Scotch pine, oak chips, and patchouli. The list also includes butter, chocolate, caffeine, coffee, cognac oil, cocoa, honey, rum, water, sherry, and yeast.

All of these have been approved by FDA for use in foods or appear on a federal list of substances "generally recognized as safe" (GRAS).

So have most of the other compounds on this list, many of which serve functions other than flavor enhancement. For instance, there are "processing aids" used to reduce tar and nicotine in smoke. There is also a host of casing materials and humectants used to hold moisture, replace sugars lost during the curing of tobacco, and make smoke smoother and milder.

At an April 14 hearing of the subcommittee, Wyden cited a letter from CDC Director David Satcher in which Satcher expressed concern about the additives. "We do not know what potentially harmful by-products may be produced when [these approved] additives are burned alone or in combination, as they are in cigarettes," Satcher said.

Moreover, almost any substance can prove toxic if ingested or inhaled in large enough quantities. As such, Satcher's letter observed, "Without information about the specific dose, combination of

ingredients, and how and when ingredients are added during the manufacturing process, we are unable to determine health risks that might result from any of the ingredients."

In the week of the hearing, the tobacco industry released an eight-page summary of a safety assessment it had commissioned on these ingredients. The report's six authors not only had access to quantities of each additive used by the six major U.S. cigarette manufacturers, but also examined test data and research at each company.

In reviewing the data, the scientific panel focused on the major ingredients—those making up 99 percent by weight of the added chemicals. These included the processing aids and 28 other, unidentified ingredients. Though a few of the additives—such as sugars—may constitute up to 9 percent by weight of the cigarettes, most occur in minute amounts.

After looking at extensive published and unpublished toxicological, metabolic, and pyrolytic data on the ingredients added to cigarette tobacco, notes Parrish of Philip Morris, this "independent assessment by six eminent scientists" found no additive to be potentially toxic at its level of use.

While describing the newly released list of additives as "a first step" in disclosure of tobacco industry practices, subcommittee chairman Henry A. Waxman (D-Calif.) said, "I wouldn't trust the so-called independent experts that

the tobacco industry has paraded out for the public and the Congress over the years."

And Wyden cautions that until tobacco companies share with the federal government both the quantity of each additive and the way in which each is used, "It cannot be declared that these additives are safe."

Not all subcommittee members share Wyden's wariness. At the April hearing, Thomas J. Bliley Jr. (R-Va.) noted that the vast majority of chemicals added to cigarettes have FDA approval for use on U.S. foods or hold GRAS status. And he reported that the few exceptions have been approved for use in cigarettes by governments or affiliated organizations in Great Britain, Germany, France, Belgium, and Switzerland. "In short," he said, "all of the ingredients used by the major American cigarette manufacturers can be found in one or more . . . accepted lists."

Moreover, Bliley argued, how could tobacco companies have been hiding toxic agents on their proprietary additives lists if they've been annually reporting each and every one of them to the government for more than a decade?

Public health officials have made little use of these lists, acknowledges Wyden. His inquiries show only two requests by federal officials to view the lists between 1985 and April 1993.

Indeed, this is "one of the most powerful indictments of the way the government has regulated tobacco," he charges. "Here we have a 1984 law so that at least public health officials could know what dangerous ingredients were in tobacco—and virtually nobody looked."

More than simple indifference may be involved, Wyden observes. The subcommittee learned that William L. Roper, the previous head of CDC, was never able to obtain information on how much of each additive tobacco companies used in their products. Without this information, Roper "felt research was really quite meaningless," Wyden reports.

Subcommittee member Mike Synar (D-Okla.) seeks to change that. He says the Fairness in Tobacco and Nicotine Regulation Act that he's authored "would not define [cigarettes] as either a drug or food product but [would] create a new, unique status." Synar's bill also would make FDA responsible for regulating the manufacture, distribution, sale, advertising, and promotion of tobacco. This would include requiring not only that all additives used in the manufacture of tobacco products be safe, but also that each pack of cigarettes carry a list of the additives and constituents—such as nicotine—found in tobacco products and cigarette smoke.

In the meantime, CDC is preparing for Congress a preliminary analysis of the safety of ingredients on the additives list. It should be completed by summer. □

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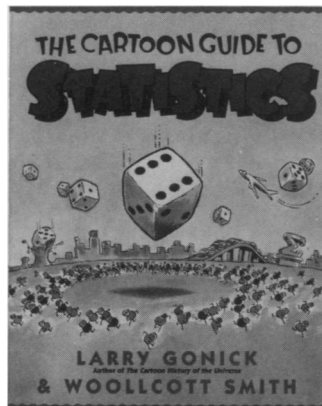
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