The Stuffing Dreams Are Made Of?

By JULIE SCELFO
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Correction Appended

WHILE pregnant with her first child last year, Chau Ngo-Rayman found herself worrying about chemicals in the products she was buying. "I got this 'how to raise your baby green' book, and I guess it kind of freaked me out," Ms. Ngo-Rayman said. "We tried to buy everything that was organic. It kind of became an obsession."

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Photo illustration by The New York Times; (baby) Juice Images/ Photolibrary; (mattress) Getty Images

The Internet was full of tips on how to cook organic food and where to buy organic cotton clothes. When it came to buying a crib mattress, however, Ms. Ngo-Rayman, a teacher at the School of the Future in Manhattan, was lost.

In stores and on the Web, she found plenty of mattresses labeled "organic," "natural" or "eco-friendly," but little guidance about what exactly that meant, or what made any one of them better than — or even different from — another, or from a conventional mattress. Vast disparities in pricing, from a little more than $100 to more than $500, only added to the confusion.

Eventually, Ms. Ngo-Rayman settled on a mattress recommended by a friend, which had the word organic in its name and cost about $200, only slightly more than a conventional one. But she is still not clear about what her son, Noah, now 8 months old, is sleeping on.

"It's definitely hard to tell," Ms. Ngo-Rayman said. "I don't even think ours is 100 percent organic. I think the outer shell is."

Spaldin's Aircell Soy mattress, made with soybean oil and fiber.

Stores across the country have lately been trumpeting the benefits of "organic" and "natural" mattresses, for adults as well as babies. There are now models made with soybeans, stuffed with coconut husks, infused with green tea and treated with aloe vera ("known to have a significant effect on energy levels," according to a press release from Serta).

But as mattresses like these have become increasingly common — and an increasingly popular subject of online discussion forums for parents — it has become ever harder for consumers to sort through the panoply of manufacturers' claims.

No government agency regulates the labeling of mattresses as "organic" or "natural," and trade groups like the International Sleep Products Association and the Specialty Sleep Association offer their members no guidelines for using the terms. Throughout the industry — as a number of people within it acknowledged in interviews — promotional materials are rife with vague or misleading information. "The whole thing is a smoke and mirrors industry," said Ralph Rossdeutscher, the president and owner of Natura World, a manufacturer in Cambridge, Ontario.

The question of what's really in a mattress is important, at least as some people see it, because, they believe, any product made with synthetic materials carries potential health risks. "You spend a third of your life in bed," said Debra Lynn Dadd, an author and blogger in Clearwater, Fla., who has been writing about toxic substances in household products for 25 years. "If you are interested in things like organic food and natural beauty products," she added, "you should realize that you're actually getting a greater exposure to toxic chemicals in your bed than anywhere else."

Not everyone agrees with this proposition, even among those seriously concerned with the dangers of toxic chemicals. Arlene Blum, a biophysical chemist and the director of the Green Science Policy Institute, an environmental advocacy

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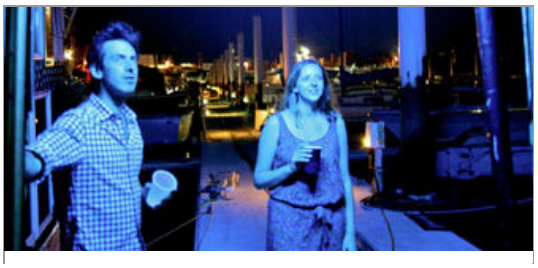

group in Berkeley, Calif., believes the issue of organic mattresses is nothing more than "a marketing ploy."

"The chemicals in consumer products are a huge problem," she said. "Mattresses are one of the only things where it's not a problem."

But as awareness of toxic chemicals in ordinary products has become widespread, many consumers have been drawn to arguments like Ms. Dadd's.

In recent decades, most mattresses have been made either with metal springs sandwiched between layers of polyurethane foam, or with just foam. In showrooms, salespeople typically focus on firmness, talking about the number of springs or the density of the foam. What they rarely bring up — but what has become increasingly common knowledge among consumers — is that polyurethane foam is made from petroleum, and that it can emit volatile organic compounds (V.O.C.'s), which have been linked to respiratory irritation and other health problems, according to both the Environmental Protection Agency and the Occupational Safety and Health Administration.

Salespeople are also unlikely, green-minded advocates say, to talk about the chemical makeup of fire retardants. In the 1970s, when cigarettes were the main cause of mattress fires, polyurethane foam was itself seen as a retardant, because cigarettes don't make foam ignite. Open flame, on the other hand, does, and in later years, when candles and children playing with matches were the bigger threats, manufacturers began treating some foam with polybrominated diphenyl ethers, or P.B.D.E.'s. This type of fire retardant began to worry environmentalists and health experts as scientists found them accumulating in places as diverse as seal blubber in Greenland and the breast milk of American women.

In 2004, after animal studies suggested that P.B.D.E.'s impaired development of the nervous and reproductive systems, their manufacturers voluntarily stopped making them in the form that the Polyurethane Foam Association said was used in some mattresses. Most of the new fire retardants introduced since then consist of synthetic fibers that block fire, and in many cases consumers have no way of knowing what they contain, since the fibers are proprietary and manufacturers are not required to disclose their composition.

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The material that covers a mattress — its ticking — is another source of concern. Conventional mattresses for children are often covered in vinyl, which begins life as a hard plastic and is softened using additional chemicals, frequently ones called phthalates. But small amounts of phthalates have been found in human tissue, and have also been linked to health problems. Last year California became the first state to ban the sale of mattresses with phthalates for use by children, in a law that became effective on Jan. 1. On Feb. 10, a federal law passed by Congress in August will forbid the use of three types of phthalates in products for young children, including mattresses.

The Keetsa Tea Leaf Supreme mattress, which has green tea in its foam for "odor control."

THE RECIPES Some mattress ingredients sound as if they'd be more at home in the kitchen than the bedroom. A Serta mattress by Vera Wang, treated with aloe vera.

Even ostensibly natural ingredients in a mattress's fill or ticking are suspect, in the view of some advocates. Latex foam, made from the sap of rubber trees, is very expensive in its 100 percent natural form, and less durable than when blended with the synthetic version. The vast majority of latex mattresses on the market are in fact made from a blended product, said Kevin Stein, the spokesperson for Latex International, one of only three latex producers in the United States, and the synthetic version contains petroleum.

Although cotton and wool are natural and renewable materials, most cotton is grown with insecticides, fungicides and chemical fertilizers, according to Organic Exchange, a nonprofit advocacy group. Sheep may be raised on land treated with chemical fertilizers.

Cotton that has been certified organic by the United States Department of Agriculture and some types of wool, like Californian Pure Grow Wool, are exceptions, and only products like these, which hew to stringent standards, pass muster with anti-chemical crusaders like Ms. Dadd.

"There's so much wrong with conventional mattresses that you really have to take a quantum leap and find a natural mattress," she said, "rather than a conventional mattress that's better. Because they're not better enough."

Walter Bader, the author of "Toxic Bedrooms: Your Guide to a Safe Night's Sleep" (Freedom Publishing, 2007), takes a similarly hard line. Mr. Bader, like Ms. Dadd, is a longtime sufferer of the condition known as multiple chemical sensitivity, a disorder involving adverse reactions to everyday chemicals, which some people believe is psychogenic.

A decade after feeling his eyes and throat burn when he walked through the detergent aisle on a grocery run with his mother in the 1950s, he said, he read about the dangers of toxic chemicals and began a lifelong quest to live without them. In the 1990s, he founded a company to sell organic cleaning and personal care products, and then began importing natural latex mattresses from Canada.

In 2003, he created Organic Mattresses Inc. so he could control every aspect of production. "When I was buying from Canada, the Canadian guy was making organic mattresses and commercial mattresses," he said. "There's always the issue of potential contamination. Polyester and all this stuff goes airborne. Who knows what goes where?"

"I have personally believed for 20 years that mattresses are at the same place cigarettes were in the 1930s," Mr. Bader

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added. "Potentially very dangerous and no government warnings."

CERTAINLY there are those who take exception to such claims. Robert Luedeka, the executive director of the Polyurethane Foam Association, dismissed the idea that mattress foam is dangerous as a "scare tactic" to help hucksters sell products. "It's on their shoe soles, it's in their clothing, their car; their bra pads are made of it," he said. "It's a pervasive material in everything we do. It's in hospitals and in wound dressings. We sell two billion pounds of it a year."

"I wouldn't eat it," Mr. Luedeka added, "but I would do anything else with it. I think it's extremely safe."

And Steven Safe, a professor of toxicology at Texas A & M University, believes the human health effect of chemicals in mattresses is probably not significant. "They're unlikely to be leaching out" in meaningful quantities, he said, adding that the greater danger is probably to the environment, once mattresses end up in landfills. "I don't think it's a bad thing," he added, that manufacturers are striving to reduce the presence of chemicals in mattresses. "But I don't really see it as a safety issue."

Even if consumer concerns about health risks are exaggerated or entirely misguided, though, the lack of clear standards for mattresses labeled as organic or natural — and in some cases, a lack of transparency about their contents — may risk feeding the kind of suspicions that Mr. Luedeka noted. Serta, for example, describes its Perfect Balance Organic Crib and Toddler Bed Mattress as having a phthalate-free vinyl cover and "organic cotton fill," but does not disclose all its other contents. When contacted by a reporter, Kelly Rampson, a spokeswoman for Serta International, would not say exactly how much of the filling is organic cotton, and referred all questions to LaJobi Industries, which makes the mattress for Serta. A LaJobi spokeswoman also declined to identify other filling components.

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Keetsa, a San Francisco retailer that calls itself "the eco-friendly mattress store," sells mattresses made from a material it enthusiastically promotes as "BioFoam," 12 percent of the oil for which comes from castor beans. The other 88 percent, though, is still petroleum-based. Joe Alexander, the sales director of Keetsa, says the castor oil component represents a huge step forward and is a significant engineering feat. "It takes a lot of work and experimentation to be able to do that," he said.

"Most people don't think or realize that memory foam is made from petroleum," Mr. Alexander added, referring to the high-density form of polyurethane foam that has been popular in recent years. "People need to start paying more attention to what they're sleeping on. They need to stop going into stores and believing everything they tell them. They need to take personal responsibility for their personal health. Nobody is regulating it."

Until the mattress industry creates standards for labeling, or the Federal Trade Commission steps in the way the U.S.D.A. has for food, consumers may be left to fend for themselves when it comes to understanding what they're buying.

"Green products have really taken off in the last two or three years, and it's a hard thing to really get your hands around," said Ryan Trainer, the executive vice president of the International Sleep Products Association. "What is green? The food people are farthest ahead on this issue and even they are having difficulties."

A consumer can hope when shopping for a mattress to deal with salespeople who are candid. Mr. Rossdeutscher, of Natura World in Ontario, sells organic mattresses with 100 percent natural latex, layers of certified organic wool and certified organic cotton ticking. But he also sells mattresses with polyurethane foam. "We don't hide the fact that it's a poly-foam, and poly-foam off-gasses," Mr. Rossdeutscher said.

"We would rather sell organic products to everyone," he added. "That's what's best for the environment and the individual. But not everyone can afford that, so we have a range of products. As you become more green, it becomes more expensive."

Ms. Dadd, however, says you don't have to be rich to sleep organically. For $300, for example, you can buy a 100 percent cotton or wool futon that rests on the floor. For less than $150, you can buy three or four cotton thermal blankets, fold them, then stack them on a metal rollaway bedframe, as she said she did in the early 1980s, when "there were no natural beds available, period." But is it comfortable? "It actually feels really good," she said, "because the cotton is nontoxic."

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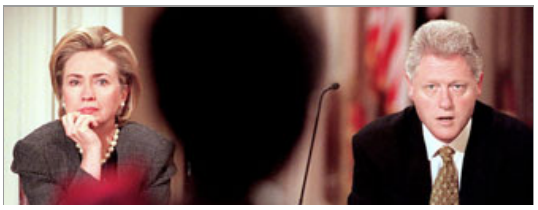
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