

To: Members of the Public Health Committee, CT General Assembly

From: Jennifer Siskind, 101 Fairview Terrace,
South Glastonbury, CT 06073

Date: March 15, 2013

Re: CT. H.B. 6519, An Act Concerning the Labeling of Genetically Engineered Food

Dear Legislators,

I have an autoimmune disorder called psoriatic arthritis, which causes stiffness and pain in connective tissue, and pain and calcification of joints. Levels of pain can fluctuate, sometimes becoming severe. These episodes are called 'flares'.

To alleviate symptoms, I've taken numerous prescriptions, NSAIDS, muscle relaxants, over-the-counter treatments and supplements; I've used trans-dermal patches and occasionally narcotic pain pills. Over the past 10 years, I've seen close to a dozen specialists and treatment providers, and have had numerous diagnostic procedures, from blood tests to MRIs. My insurance company has payed out tens of thousands of dollars. My out of pocket expenses have been thousands of dollars each year. Despite sophisticated testing and years of pharmaceutical and other treatments, something as simple as food was how I finally found success in treating this illness.

My interest in how food might affect arthritis began when professional golfer Phil Mickelson announced that he'd been diagnosed with psoriatic arthritis. I knew that Mr. Mickelson's wealth and celebrity gave him access to the best doctors in the country. So I tracked down news articles that mentioned his treatment and found that he'd given up his trademark burgers at the 19th hole. I researched foods that affect inflammation, and after a series of elimination diets, I adopted a nutrient-dense, plant-based diet.

My condition worsened and I became more debilitated with frequent and acute arthritic flares. I began to suspect that some of the vegetables that I was eating in large quantity might be aggravating my symptoms. I knew that the nightshades, or plants in the *Solanaceae* genus, had been associated with arthritis for decades. Peppers, eggplant, tomatoes, potatoes, and the new super-food, goji berries, are all members of the nightshade family.

Given all the news reported in the mainstream media about the benefits of anti-oxidants, it was hard for me to consider giving up these highly nutritious and delicious foods. I decided to first ask my physicians. My primary care doctor responded with, "What's a nightshade?"

At my next rheumatology appointment, I discussed discontinuing my prescription medications because I didn't

want to deal with their side effects any longer. I mentioned how much worse I'd been over the last 6 months since switching to a plant-based diet, and that I suspected I might have a nightshade sensitivity. My rheumatologist suggested trying a new prescription and going back on over-the-counter NSAIDS. In the matter of nightshades, her response was dismissive, saying, "Some people have reported issues, but it's all anecdotal. There's been no research." Then she handed me the new script and said, "Next time you have a flare, come in and see me. I can give you steroids, injected into your tendons."

A few weeks later, I was debilitated with a painful flare again. I didn't want to receive injections if possible, and had spent 4 days on the couch, getting up mostly just to swap out hot and cold packs. I decided to google 'nightshades and arthritis' and was floored to discover numerous accounts from people who had resolved pain issues by avoiding nightshades completely. Further research gave me information about "hidden nightshades." For example, paprika is used for coloring in many prepared foods; potato starch is an excipient in pills. Pharmaceuticals, such as scopolamine and atropine, are derived from Belladonna, a nightshade plant.

I immediately stopped eating all nightshades and discontinued all pills until I could confirm ingredients from manufacturers.

Within 3 days, my pain scale dropped from an 8/9 down to 2/3. I went from taking the newly prescribed muscle relaxant, plus 16 Motrin a day, plus 4 eight-hour Tylenol to becoming medication free for the first time in years in just a matter of days.

That was 18 months ago. I've since spent countless hours researching articles on PubMed, pouring over scientific journals and academic textbooks. I've been particularly interested in finding everything I could about nightshades. I discovered that the glycoalkaloids found in nightshades are cholinesterase inhibitors, and sensitivity to these cholinesterase inhibitors was contributing to my pain.

I learned that in order to initiate movement, a neurotransmitter called acetylcholinesterase is produced to contract the muscles. In order to stop the contraction, a second chemical is produced called cholinesterase. Cholinesterase cleans up the excess acetylcholinesterase and allows the muscle to relax again. For people who are sensitive to nightshades, the glycoalkaloids contained in them causes cholinesterase to be inhibited. Because of this, they experience an excess of acetylcholinesterase, and their muscles remain painfully contracted. For reasons unknown, this imbalance contributes to calcinosis, which causes pain and calcification in the joints.

Not everyone who is sensitive to the glycoalkaloids in nightshades develops arthritis pain. It is unclear why symptoms are manifested differently from person to person, possibly due to varying genetic mutation or expression, but two other commonly reported symptoms related to nightshade sensitivity are migraine headaches and gastrointestinal distress.

I remained completely medication free until last summer when something went terribly wrong while traveling with my family. We were visiting colleges with my daughter when I started to develop excruciating pain one afternoon. By that evening, my husband was filling Ziploc bags at the ice machine for me and purchasing over-the-counter meds in the hotel lobby. After taking the maximum allowable medication, I finally fell asleep around 3 am, surrounded by ice packs.

The pain continued to dissipate the next day, but returned again the final, third day that we were visiting the area. I knew that I'd been monitoring my diet carefully for nightshades, but just to be certain, I contacted all the places that I'd eaten to review their ingredients. We had stopped at an artisanal ice cream parlor on the first and third days in the area. Since they openly posted news articles that they sourced organic ingredients when possible, I assumed that they used cane sugar exclusively. I found out that they use corn syrup in their

sorbets. Each time I'd eaten a portion, on those first and third days, I'd reacted with an arthritic flare.

Later that summer, I had a third flare, this time after eating 2 pieces of deli ham. Again, determined to pinpoint the cause, I looked up the ingredients. I contacted the company to determine if their dextrose was sourced from potato, or if paprika was one of the "natural spices" listed on their package. I received a quick response back that the dextrose they use is derived from corn, and they did not use paprika.

It was becoming obvious to me that I was now having a problem with corn.

Since 90% of the total corn and more than 40% of the sweet corn grown in the U.S. is now genetically engineered, and neither of the products that I'd eaten had ingredients that were marked organic, it is reasonable to presume that the corn products I was eating and reacting to were genetically engineered. But just to make sure, I contacted the ham manufacturer to inquire if their additives were sourced from genetically engineered crops. This time there was no rapid response. Despite repeated inquiries to both customer service and the food scientist who initially responded, I didn't hear back from the company again.

To test to see if I was possibly reacting to gluten in corn, I've consumed multiple portions of organic corn and organic corn cereal. I haven't had a reaction. I decided to see if there was

any connection between nightshade sensitivity and corn sensitivity, and the answer that I found may be linked directly to genetic engineering.

I discovered that over a decade ago, in 1999, persons who had already identified as being sensitive to nightshades, and had successfully eliminated them from their diet, reported having mysterious relapses and arthritic flares. They examined their diets and arthritic responses and noted that their symptoms returned after consuming corn products and cottonseed oil, foods that they had previously eaten without incident. They theorized that recently introduced Bt crops were responsible for these flares. When corn and cottonseed oils were removed from their diets, their symptoms diminished.

After the experience I've had with nightshades and genetically engineered corn products, I've learned to trust the validity of anecdotal evidence. If I'd listened to my rheumatologist when she dismissively said, "It's anecdotal. There's been no research," I would still be experiencing acute pain and taking powerful medications.

Whenever I hear widespread reports of chronic pain in society today, and the subsequent abuse of prescription pain medications, I wonder what outcome would occur if the mainstream medical community and our governmental bodies, the CT General Assembly and its committees included, put more focus on food and nutrition to help resolve these problems. About 10% of the population is arthritic. I do not

know the number of people suffering migraines and gastrointestinal disorders, the two other commonly reported issues linked to nightshade and possibly GE Bt toxin. Given what I and my insurance company have spent on my care alone, I believe the savings to our public and private health care system would be significant.

I hope I've demonstrated for you today why for me it's not a just a right to know, but an essential need to know if my foods are genetically engineered. If H.B. 6519 is passed, I will have an easy to identify means of knowing where my foods are sourced. I can also ask restaurant personnel to easily check their stock for a simple label. No consumer should have to go through the hours of research I've conducted to know how they are being affected by their food. But with a simple label, more consumers can be appropriately informed. This information should be viewed as beneficial and in the public interest. I ask each member of the committee to please recommend H.B. 6519 favorably and to work with your caucus to ensure the success of this bill being passed into law. Please also see the addendum that I add to my testimony, the public letters of 22 scientists and physicians urging the labeling of genetically engineered foods.

Thank you,

Jennifer Siskind, 101 Fairview Terrace, South Glastonbury, CT

Yes: Food labels would let consumers make informed choices

Editor's Note: The board of the world's largest general scientific organization created a firestorm by calling labeling of genetically modified foods unnecessary. A group of prominent scientists disagrees.

By Patricia Hunt of Washington State University and 20 other scientists

As a group of scientists and physicians that includes many long-standing members of the American Association for the Advancement of Science (AAAS), we challenge the recent AAAS Board of Directors statement opposing efforts to require labeling of foods containing products derived from genetically modified crop plants. Their position tramples the rights of consumers to make informed choices.

The statement argues: “These efforts are not driven by evidence that GM foods are actually dangerous. Indeed, the science is quite clear: crop improvement by the modern molecular techniques of biotechnology is safe. Rather, these initiatives are driven by a variety of factors, ranging from the persistent perception that such foods are somehow ‘unnatural’ and potentially dangerous to the desire to gain competitive advantage by legislating attachment of a label meant to alarm.”

This narrow focus on GMO safety ignores the broader life-cycle impacts of GMO crops. Many GM crops are engineered to be herbicide-resistant, which has led to the evolution of weeds resistant to widely used herbicides, including RoundUp and its active ingredient glyphosate. This, in turn, has led to increased herbicide use and to searches for alternatives. Thus, herbicide-resistant GMOs are committing us to a chemical treadmill.

Burgeoning growth of the organic food sector demonstrates that some consumers make choices based on sustainability, including potential health effects on farmworkers and the environment due to intense chemical use. Other cropping systems have reduced the need for chemical inputs, and many consumers want to support and expand the development of these farming practices by choosing not to buy food produced using GM technologies. Further, many people in the United States want food that approximates – in so far as possible – the food their forebears ate. Whole communities such as the Amish mandate this of their members. This powerful instinct will always exist among certain groups, regardless of scientific advances and safety analyses.

Thus, the Board’s paternalistic assertion that labeling of GM foods “can only serve to mislead and falsely alarm consumers” is an Orwellian argument that violates the right of consumers to make informed decisions. Importantly, despite their widespread use, the human and wildlife toxicity of herbicides has not been well studied. Evidence suggests that at least some may induce detrimental health effects even at low exposure levels. Importantly, recent molecular studies suggest that glyphosate-based herbicides can impair retinoic acid signaling, producing teratogenic effects. Thus, the finding of human effects consistent with impaired retinoic signaling in agricultural areas with heavy RoundUp use raises concern about the potential health effects of heavy herbicide usage. Although these studies do not prove that RoundUp/glyphosate creates unwarranted human risks, they raise significant concerns. Labeling GMO products would allow consumers to make choices based on these concerns.

The Board asserts that “Civilization rests on people’s ability to modify plants to make them more suitable as food, feed and fiber plants and all of these modifications are genetic.” However, civilization also rests on the confidence that an individual’s basic human rights will be respected by his or her fellow citizens and by the government, including the ‘right to know.’

The AAAS statement notes that “GM crops are the most extensively tested crops ever added to our food supply.” The statement should have included the fact that the Food and Drug Administration’s testing program is voluntary. Our experience with other well-studied consumer products (tobacco, asbestos, bisphenol A, phthalates) demonstrates that a large number of tests provide no guarantee of safety. Typically, evidence of harm has only emerged when testing has been conducted independently of those who benefit from the product or practice. Unfortunately, years of manufactured doubt by those with a vested interest have and continue to slow public health decisions that rightfully should be based solely on science.

Patricia Hunt, PhD
Washington State University

Bruce Blumberg, PhD
University of California, Irvine

Carl-Gustaf Bornehag, PhD
Karlstad University, Sweden

Richard Clapp, PhD
University of Massachusetts, Lowell

Terrence J. Collins, PhD
Carnegie Mellon University

Peter L. DeFur, PhD
Virginia Commonwealth University

Steven G. Gilbert, PhD, DABT
Institute of Neurotoxicology & Neurological Disorders

Louis J. Guillette, Jr. PhD
Medical School of South Carolina

Tyrone B. Hayes, PhD
University of California, Berkeley

Steve Heilig, MPH
San Francisco Medical Society

Shuk-mei Ho, PhD
University of Cincinnati Medical Center

Richard Jackson, MD
Former Director, National Center for Environmental Health, CDC

Harvey Karp, MD, FAAP
USC School of Medicine

Bruce Lanphear, MD, MPH
Simon Fraser University

John Peterson Myers, PhD
Environmental Health Sciences*

Gail S. Prins, PhD
University of Illinois at Chicago

Shanna Swan, PhD
Mt. Sinai School of Medicine

Bernard Weiss, PhD
University of Rochester

Laura Vandenberg, PhD
Tufts University

Frederick S. vom Saal, PhD
University of Missouri

R. Thomas Zoeller
University of Massachusetts, Amherst

The following two letters were written by Dr. Norman Childers, Ph.D. A graduate of Cornell University, Dr. Childers was a horticulturalist who worked at Rutgers University and after mandatory-age retirement, at University of Florida,

Gainesville. These two letters were written at the age of 89 and 90, respectively. He founded the Arthritis Nightshade Research Foundation, and assisted thousands of people in understanding the connection between arthritis and nightshade sensitivity, and later Bt toxins. Dr. Childers died at age 100 in 2011.

1. Biotech Foods- Symptoms of Excess Bt-Gene Worm Killer Toxin

Dr. Norman F. Childers, Ph.D.

Reports of people symptoms of excess toxin from the Bt-gene worm and Monarch butterfly killer (*Bacillus thuringiensis*) seem to be minimized or non-existent in the media. The Bt gene in late 1999 was reported to be in about 50 percent of the corn and 30% of the soybean products, some tomatoes and potatoes on the U.S. Market; but eating at restaurants, bars, and eateries one could not be sure which foods have the gene. The corn (syrup for sweetener and starch) and soybean (oil and lecithin) products are labeled in numerous foods across the board as bread, grits, candies, cakes, muffins, cookies, cough drops, sodas, cereals, salad dressings, some ice creams, and numerous other foods. One needs only to read the "Ingredients" listing on packaging to avoid even bits of the toxin which can accumulate from several foods. People susceptible to arthritic aches and pains seem to be among the most susceptible. Some people may be able to tolerate small amounts of the toxin, but also may get mild symptoms unaware of the cause. Among our Foundation's current 4,000+ cooperators, reports of mysterious new symptoms are coming in which can not be explained by our dieting routine. Long-time cooperators seem to have a rationalizing attitude, "Guess I'm just aging, lets face it." Our Diet program is essentially avoiding rigidly the nightshade foods which are relatives of tobacco and are relatives in the same family, *Solanaceae*. The nightshade food plants, like tobacco, contain mild drugs such as nicotine which may help explain why these vegetables (tomato, potato, eggplant, and peppers) have come to occupy a fourth to half of almost every meal. No-Nightshades Dieters are mostly free of arthritic aches and pains and are in good health, living longer. Hence, when new pains and harsh symptoms mysteriously appear, Dieters usually know something new has entered their dieting routine.

People symptoms of too much Bt toxin apparently have not appeared in the International media. The few reports to our Foundation to date (since 1999) are: stiff fingers and in areas of most stress as hands may become swollen, hot to the touch, inflamed, sore and thumb or finger joint may start cracking on bending; weak in lifting; can't sleep well; fuzzy thinking and hearing; sight and teeth may be affected on the side of the body most affected; dry unruly hair, some falling; generally tired on arising in mornings; want to sit down or lie down; little ambition and energy. Symptoms may worsen soon after consuming more toxin and may gradually disappear over a few days to two weeks after one begins to try to avoid the toxin. It is not certain but many people seem to have a lingering occasional tickling of the throat leading to coughing. Symptoms can be severe. A few cooperators report not being able to get out of bed in the mornings, and if they do, needing a cane to get around. This happened to me after eating a handful of mixed nuts which were "roasted" in cottonseed oil which can be powerful. Especially on an empty stomach like I had. The doctor found no evidence of a stroke. One person was crawling on hands and knees and doctors were suggesting a

form of arthritis (fibromyalgia.) Another was in bed three weeks because they couldn't walk. The only treatment is to exercise and drink plenty of water to "wash" the toxin through the system. The U.S. media has not reported symptoms coming from Europe (or the United States) which are apparently clear cut, resulting in the GM labeling law passed in England, October 1999. Perhaps the media is reluctant to cover this issue, fearing a panic may ensue.

Agriculturally trained professionals likely would be very cautious in weaving a gene in food plants that can develop a toxin which kills worms eating the plant; in ornamentals perhaps "yes." But what would such a toxin do to people who consume it in their food? If it were done, they would at least run animal feeding trials before entering the market, and not use humans as guinea pigs to hurriedly make big money. Pharmaceuticals (Monsanto e.g.) are leading this program. The Bt gene could be quite valuable to the farming business. The Bt toxin spray has been applied to the outer surfaces of food plants for years with no apparent problem.

The concern for GM (Genetically Modified) foods has spread rapidly over the world. It is suggested that you contact the managers of where you eat out, or the chain restaurant head managers and ask them simply to request their suppliers to try to get foods and ingredients which are free from genetic modification (GM). This is the best we can do of switch to organically grown foods which are free of chemicals and gene modification. The organic items are now available in many supermarkets. Leading genetic engineers continue to claim vigorously that their foods are "safe" (without scientifically performed data to prove it!). Concerned people can also phone the 800 numbers on food packaging and ask the companies if they are using biotech genetically modified foods (the Bt insecticide gene is the key problem), and if they are, please stop for the public's benefit, at least until the problems are corrected. A congressman in Washington, DC (a successful nightshades Dieter) has contacted us in regard to the food problem.

Reported in 1999 by the Arthritis Nightshades Research Foundation and as of 2002 there has been no change in regulations by the FDA or EPA. They still claim the food to be "safe."

2.The following is a letter by Dr. Childers to the American Society of Horticultural Sciences which addresses the Foundation's concern with the Bt toxin in food plants. It was published in the *ASHS Newsletter* Vol. 16(7) July 2000. (distributed worldwide to over 5000 ASHS members who are mainly horticultural scientists)

I read John Kelly's recent article in the ASHS Newsletter (May 2000) on genetically modified (GM) food. You may know of my work on the side trying to help arthritics by avoiding the Solanaceae. Since the 1950's when I discovered the relationship at Rutgers with my own problem, I have had up to 5000 on my mailing list over the world and now have about 3800. Over the past few years, we have been having problems with something mysteriously in our food not related to nightshades, since most cooperators have eliminated them in their diets. I had trouble with a swollen right

hand in Summer 1999: hot, hurt, finger cracked when moved up and down, etc. Nothing seemed to get rid of it until I learned of the Bt toxin in corn and soybeans. I was behind on my reading. I was eating a lot of corn and seemed to have gotten the Bt toxin there since when I ceased corn and soy products as best I could, the problem decreased but never went away since I'm getting thinner trying to avoid these foods almost across the board. Later, I got up one morning and could hardly get out of bed from paralysis of the lower body. Lasted three days on a cane until I could wash it out with lots of water. I went through all the checkups later and apparently it was not a stroke. Traced my food and found they had dipped mixed nuts in cottonseed oil and I liked them, eating several handfuls the night before with no evening meal. That stuff was powerful. Oil seems to retain whatever very well. Then reports began coming in from cooperators. The media does not report people's symptoms, it seems. We as arthritics may be more susceptible to something like this- cholinesterase inhibitors- which is probably how this toxin kills insects along with disrupting their guts (USDA reports). We talk about this only among ourselves and try as best we can to avoid the GM foods. Horticultural leaders should know of our experiences since arthritics make up over 10% of the population, although nearly all older people get it if they live over 60 or 70 years. I wish the scientists, which in this case apparently know little about agricultural procedures, would run some animal feeding tests before they try the foods on us as guinea pigs. Of course, here again are the big corporations taking over the production and safety of our food to make BIG money, and the gradual demise of our world-famous land-grant college (LGC) performance in food production. We need to talk more about the LGC system and try to get back the public money we got to operate them. If farmers know what happened, they may fight to get it back for their own benefit as well as ours. But I do believe we need first also to educate our own faculty and particularly the Ag deans and directors today.

Norman F. Childers
Horticultural Sciences Dept.
University of Florida, Gainesville

**Environmental Health Sciences is the umbrella organization over Environmental Health News*

