



Dragonfly News

The Official Monthly Newsletter of Song of Health

MAY, 2008

Welcome Subscribers, to *Dragonfly News*. We are excited about the opportunity to share interesting and helpful information with you in our monthly newsletter, which is available to subscribers only, on the website and automatically sent to you by email. We send it to you in both .doc and .pdf forms.

If you did not receive this issue at your email address, please notify us immediately. We may need you to update your current email address with us.

Important notice: a food resource update, dated feb. 08, was emailed to everyone recently. please let us know if you did not receive it and need us to email it to you directly. the additions will be included in the list on line shortly.

Give the gift of health: honor your friends and family with a subscription to Song of Health.

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Reprinted from The Institute For Responsible Technology

Recipes The Perfect Chocolate Bar

THE FOOD RESOURCE LIST IS NOW AVAILABLE IN PRINTABLE VERSION. JUST GO TO THE FOOD RESOURCE LIST, GO TO THE BOTTOM OF THE PAGE AND CLICK ON "SOH RESOURCE LIST PART 1 AND PART 2 FOR THE LATEST VERSION IN .PDF FORM.

2007 ISSUES OF DRAGONFLY NEWS ARE NOW AVAILABLE ON CD.

Subscribers' cost is only \$14.95, non-subscribers, \$49.95 plus shipping. This CD is a valuable compilation of articles by our renowned doctors, whose work in their field is highly regarded among their colleagues, patients, and professionals in other circles. Along with all the other information offered, this collection is a great opportunity for students and others seeking reliable research resources in our field.

WHAT INFORMATION WOULD YOU LIKE TO HAVE IN YOUR NEWSLETTER?

Our goal is to serve you. Please help us by sharing what you would like to see in the *Dragonfly News*. We also invite you to [share your favorite recipes with us.](#)

You may contact us at: newsletter@songofhealth.com

Just a reminder: Per your request, **we are adding the column "TESTED FOR" to future Food Resource List updates.** We agree that the resource will be more helpful knowing what the foods were actually tested for as well as the results. This way you will know if a food was tested for potato, for example, and the RESULTS column will verify whether potato is a hidden ingredient. Unfortunately, we are not able to go back to the original lists to retrieve this information. We are striving to improve on how we can help you and appreciate your participation in this process.

Also...Some of the updates that are directly emailed to you list where the products may be purchased. We are not able to include this column on the website edition due to lack of column space.

SUBSCRIBERS SPOTLIGHT STORIES, COMMENTS AND QUESTIONS

share your story with others.

SUBSCRIBERS, please. . . help others by sharing your story with us and allow us to publish it in the next issue of *Dragonfly News* and *Subscribers' Testimonials*, now on the *Song of Health* website. We have this opportunity to help those who still suffer but are not confident that our dietary lifestyle will work for them. By hearing and reading about how our lives were dramatically changed we can help them to step through the door toward wellness. **WE WOULD BE HONORED TO INCLUDE YOUR STORY** about how you came to follow the Dr. Carroll Food Intolerance way of life. We reserve the right to edit for grammar and spelling correctness, however we will not change your story content.

IF YOU PREFER US TO HELP YOU WRITE YOUR STORY, WE WILL BE HAPPY TO. JUST ASK!

Please email your contribution to webmaster@songofhealth.com. **Thank you for helping us to achieve our goal of reaching out to as many people as possible in order to offer them hope.**

A note of encouragement: A subscriber was concerned that her story was uninteresting. **There is no such thing as a boring, uninteresting story!** We are here to support each other and every contribution helps, no matter how small or large the content. Please don't let that stop you!

QUESTIONS ASKED AND ANSWERED:

The following questions were emailed to us in the past month.

PAT S. emailed:

Would Stephanie R. who dehydrated all her meals for a camping trip last fall be willing to recommend a cookbook or tell us how she learned how to dehydrate her food and make meals out of it?

Are there any meat/mine salt intolerants who would be willing to share their meal lists, what they do when they travel, or try to go out to eat?

(Editor's note: See the November 2007 issue of *Dragonfly News* for Stephenie's story of how she

prepared meals for her family and herself, in order to accommodate all their food intolerances, on their summer camping trip last year.)

Jeanette B. emailed:

Are juniper berries considered a fruit?

Answer from Dr. Zeff: I have not seen it react as fruit, and I use it in kidney tonics for fruit sensitive patients without a problem.

REMINDER: Have you checked out [THE FORUM](#) yet? It is a great place to share your ideas, ask questions, obtain information from questions already asked and communicate with other subscribers.

MAKE YOURSELVES HEARD!

Example of Recent additions to the Forum:

Posted by **Traci** 26th March, 2008

Can you tell me what oil is the better one for our bodies, peanut oil or safflower oil? I use mainly for dressings (like Dr. Watrous' Yummy Honey Dressing), and for occasional frying.

Thanks T

Posted by **Dr. Watrous, N.D.**

I use both. I don't know if one is better for you than another. They are both good oils.

Dr. Watrous

Posted by **Traci** 14th April, 2008

Is canola oil not as good for us as peanut oil and safflower oil, and if so, why? Thanks again.

Posted by **Dr. Zeff, N.D.**

Canola oil, also known as rape seed oil, contains natural toxins. Canola is a genetically engineered variant that has reduced the toxins substantially. Millions of people use it daily and seem to have no problem with it. I do not think it is a real hazard, but there are healthier alternatives. Jared Zeff, ND

Please post your replies to our other subscribers at [THE FORUM](#).

Thank you.

My favorite Alternatives

By Dr. Jared Zeff, N.D.

We are often confronted with patients who are frantic or desperate. What can they eat? They miss their favorite foods, which just happen to be the foods they have a problem with. Over the years we have discovered a number of substitutions. I would like to review a few.

In baking, what do you do about eggs, or milk, or sugar? What we do is this. If a recipe calls for eggs, I just leave them out. That usually works quite well. Lauren uses the following formula: a tablespoonful of vinegar and a pinch of baking soda. I don't understand this, but she does it, and her crepes are in demand. With two egg sensitive daughters, I just make the cookies without the eggs, and they turn out well enough that they do not last long.

In place of sugar, we use maple syrup. I know that there are other options, but I love maple, so I find this one the best. If the recipe calls for two cups of sugar, I use one cup of maple syrup. I do not adjust for liquid, and occasionally need to add a bit more flour, depending upon the dough or batter. Alternatively, I use honey the same way.

Substituting for milk is as simple as buying a box of Rice Dream rice milk, original flavor. Or, in a pinch, I will make a nut milk. I will take a handful of nuts and blend them up with a quart of water. The longer it sits, the better, but you can use it right away if you need to.

So, make your favorite recipe, and substitute for what needs to be excluded. It may take a bit of getting used to, but maybe not. It might even be better.

For potato substitution, like in stews and soups, we use rutabagas or winter squash. We cut them into appropriately sized squares and then add that starchy element without the pain and illness associated with the potato. Some people like turnips or parsnips, but I think the rutabagas are best, and I love to mash butternut squash. Better than mashed potatoes, at least for me. You can even make French fries from these two vegetables.

Lauren has a fruit intolerance. To add that sweet tangy aspect, we use rhubarb. We use it for pies and cobblers, and make a kind of jam or sauce with honey or maple syrup and cinnamon. She loves it on toast, or over ice cream. You can even mix it into cookie dough for an interesting fruity cookie, without the fruit.

We love to cook, and for 25 years or more we have been cooking for a mixed diet household. We just do it. We make substitutions in cookbook recipes and if something doesn't turn out quite right, we just make an adjustment and try again. But you will be surprised how tasty things are with these simple substitutions.

Jared Zeff, ND

Editor's Note: Lauren is Jared's wife, Lauren Zeff.

SHARING EXPERIENCES

By Sandra Strom, CEO

Companionate Planting in The Garden

The growing season in the Pacific Northwest is so late this year that even the plants have cabin fever. Most likely, those of you who live in warmer, dryer climates have already begun to plant your gardens. With a little ingenuity and a few easy tricks you will still be able to companion plant, if you haven't already done so, by squeezing herbs and flowering plants in amongst the already seeded vegetables.

It is no secret that organically grown foods are healthiest for us to consume rather than crops that have been sprayed with one chemical or another and/or have been genetically modified. Let's take it a step farther and grow our own! There are tons of books on the market, explaining the many varied styles of gardens, such as raised beds, planter boxes for small areas and the good, old-fashioned rototilled garden. Companionate planting is not confined to a specific style of gardening – the concept is the same throughout.

There are several major issues to consider when growing an organic garden, free of herbicides, pesticides (the major issue) and chemical fertilizers. How do we keep the bugs from devouring the

products of our laborious love before we get to? How do we enrich the soil naturally? Answer: talk to the neighbors who grow! Ask the local nursery workers, farmers, the ones who have lived in the area for many growing seasons: What is the soil rich in and what is it lacking? What bugs or organisms cause the most problems, how and what plants do they affect? Is it beneficial to bring in insects that are natural predators of pesky bugs, such as the praying mantis? If you choose to obtain manure from a farm or ranch, find out first if the animals have been treated with antibiotics, worming medicine or any other chemicals and how long ago. If the answer is yes and it has been less than two years, it is best not to use it. Organic tilth laws in most states require a three year resting period. Use your best judgment – decide what you are willing to feed the veins of your fruits and vegetables that will ultimately reach yours.

What is companion planting and why bother? As a seasoned organic gardener for some thirty years, I can vouch, from experience, that it makes a huge difference as to what plants are placed next to each other, both for the nutritional value of the soil and for warding off critters. This is what the art of companion planting is – knowing what plants, when sown together, will strengthen each other and conversely, which ones require the same needs and will, therefore, weaken each other when planted side by side. The extra bonus to companion planting is you will have a beautiful garden sparkling with colorful splashes of inviting flowers, an offer to enter that is impossible to refuse! When planting a row, mark each end with a flowering plant that is compatible to the crop. If you don't have a greenhouse to start early, consider spending the money for the six-packs of flowering plants already started in a greenhouse. The row can be easily seen before the starts poke up their little heads and, when matured, the walkways are richly bordered in fascinating hues. Always plant at least two rows of the same crop together, making it easy for the bees to help in the plant mating process. I split my garden in half, with a walkway in the middle, making for shorter rows, which makes the planting and weeding less tedious while affording more opportunity to companion plant.

What plants co-exist well and what don't? Here is a list of basic planting tips:

Do not plant members of the same vegetable family together, such as the brassica family (broccoli, cauliflower and cabbage). The same pests feed on them and they require the same ground nutrients.

Plant corn with cosmos and asters – Plant the asters at row ends and at least one row of cosmos alongside the corn. The asters are exceptional at attracting earwigs away from the corn. If considering cutting the flowers for the house, you might want to check them first. This trick really works. **Marigolds, chrysanthemums, coreopsis and sweet geraniums** may also help.

Do not plant corn with tomatoes.

Plant marigolds around the garden to protect it from nematodes. Nematodes are a minute worm that burrows in the soil and sucks nutrients from plant roots. Excretion from the marigold roots are deadly to nematodes. Other bugs find the smell of marigold distasteful, as well. Generally speaking, strong smelling flowers are the best deterrents.

Plant green beans, potatoes and savory side by side. The beans ward off the Colorado potato beetle while the potatoes ward off the Mexican bean beetle. The savory adds to the front line of protection against the Mexican bean beetle. **Horseradish** will also aid in deterring **potato bugs**.

Do not plant potatoes next to tomatoes.

Nasturtiums and radishes planted around squash hills and with broccoli, cabbage and cauliflower aids in warding off the cabbage butterfly, or looper, (those little white flutter-bys) and other pests, such as aphids. The herbs **mint, rosemary and sage**, and **calendula**, a perennial flower, are also helpful in warding off the looper. In the Pacific Northwest, loopers are a major nuisance and usually require secondary tactics: Sprinkle diatomaceous earth over the

plants, spray with garlic juice or cover with a bran mash. Remember to replace the solutions after a rain or heavy overhead watering.

Tomatoes are compatible with cabbage. Plant sweet basil and parsley in with tomatoes. Wormwood with tomatoes helps to repel the flea beetle.

If you plant an **asparagus** garden, gift them with **tomatoes** to repel the asparagus beetle.

Onions and **leeks** are great friends for **beans, tomatoes** and **peach trees**.

Plant **garlic** around **roses** and **peach trees**.

A method called "trap-cropping" is another facet of companionate planting. Weeds, such as mustard, will attract pests away from the garden. Sow an early hill of squash away from the garden. If there is going to be an infestation, it will get attacked first. You have successfully "trapped" the pests. Be sure to destroy the plant.

Remember to rotate crops from year to year. This not only aids the soil in replacing nutrients used up from the prior year's crops but discourages easy nesting for pests.

Companionate planting is a very special opportunity for us to co-exist with Nature, utilizing the natural gifts offered us. In doing so, we contribute to the healing process of Mother Earth. It is truly a win-win experience.

Book references:

Peacock Manure & Marigolds, Gillespie, Janet. Ballantine Books, 1972.

The Basic Book of Organic Gardening, Edited by Rodale, Robert. Compiled by Johns, Glenn F. Ballantine Books, 1971.

THE FOLLOWING IS AN ARTICLE REPRINTED, WITH PERMISSION, FROM THE INSTITUTE FOR RESPONSIBLE TECHNOLOGY. From time to time, we will share with you, or refer you to articles of interest that we feel are vital to your health. We have not edited this but have reprinted it exactly as originally published. You may, therefore, find grammatical or typographical errors.

Spilling the Beans, December 2008

GENETICALLY MODIFIED SUGAR BEETS: A BAD BET (AT THE WORST TIME)

The US sugar beet industry is threatening to venture into the world of genetically modified (GM) crops, hoping to introduce a new gene-spliced variety by Monsanto as early as spring 2008. But if the experience of the last decade is any indication, such a move will lead to huge economic losses for the sugar industry and even for US food companies who use sugar as an ingredient. Moreover, the timing for such an introduction couldn't be worse. GM sugar would be dispersed through the food supply in early 2009, just as the new president is sworn in. If he or she is a democrat, which is likely, then mandatory labeling of GM foods will soon follow. And more than 50% of Americans have said they would reject GM foods if given a choice. But even without mandatory labeling, there is a significant industry and consumer effort underway to remove all remaining GM ingredients from the natural food industry, and to provide consumers with handy non-GMO shopping guides. And if that weren't enough, the recent evidence confirming that GM foods are

dangerous to health,[1] is inspiring more and more physicians to prescribe non-GM diets to their patients. With all this, how can the sugar beet industry be serious about GM sugar beets? It appears that they are relying on Monsanto and the biotech industry for critical information. Oops.

BIOTECH PROMISES COME UP SHORT

For more than a decade, biotech advocates spread promises of an unprecedented economic boom, but according to the San Francisco Chronicle, most of their hoopla remains "in the 'promise' category - and has been each year." [2] Their "smorgasbord of marketing claims," writes the Asia Times, just adds to "the credibility problems that are piling up against genetic engineering." [3] The Wall Street Journal reported, "Not only has the biotech industry yielded negative financial returns for decades, it generally digs its hole deeper every year." [4] The Associated Press says it "remains a money-losing, niche industry." [5]

In spite of their poor track record, advocates continue to convince politicians and others to invest in their infant technology. "This notion that you lure biotech to your community to save its economy is laughable," said Joseph Cortright, an Oregon economist who co-wrote a report on the subject. "This is a bad-idea virus that has swept through governors, mayors and economic development officials." [6]

Nowhere in the biotech world is the bad-idea virus more toxic than in its application to GM plants. Not only does the technology under-deliver, it consistently burdens governments and entire sectors with losses and problems. The Canadian National Farmers Union (NFU) observed, "Corporate and government managers have spent millions trying to convince farmers and other citizens of the benefits of genetically-modified crops. But this huge public relations effort has failed to obscure the truth: GM crops do not deliver the promised benefits; they create numerous problems, costs, and risks." [7]

US AND CANADA LOSE BIG-TIME WITH GMOS

Among the first politicians hypnotized by biotech's charm were in the White House during the first Bush administration. Vice President Dan Quayle chaired the elite Council on Competitiveness, which chose to fast track GM food in hopes that it would strengthen the economy and make American products more competitive overseas. The opposite ensued.

In Europe, virtually the entire food manufacturing and retail industry responded to consumer pressure by banning GM ingredients. Because of the difficulty of segregating GM from non-GM crops, importers simply rejected all food crops from the US if any of that species were modified. US corn exports to Europe, for example, have been virtually eliminated, down by 99.4 percent, even though the US produces plenty of non-GM corn. The American Corn Growers Association (ACGA) calculated that the introduction of GM corn caused a drop in corn prices by 13 to 20%. [8] Their CEO said, "The ACGA believes an explanation is owed to the thousands of American farmers who were told to trust this technology, yet now see their prices fall to historically low levels while other countries exploit US vulnerability and pick off our export customers one by one." [9] US soy sales also plummeted due to GM content.

When Canada became the only major producer to adopt GM canola in 1996, it led to a disaster there as well. The premium-paying EU market, which took about one-third of Canada's canola exports in 1994 and one-fourth in '95, stopped all imports from Canada by 1998. The GM canola was diverted to the low-priced Chinese market. Not only did Canadian canola prices fall to a record low, [10] Canada even lost their EU honey exports due to the GM pollen contamination. The Canadian NFU warns, "Closing markets and falling prices threaten to overwhelm any small, short-term economic benefits that GM crops or livestock may offer." [11]

Four major GM crops comprise 99.9% of GM acreage: soy, corn, cotton, and canola. All four have varieties engineered to survive applications of specific herbicides. For example, if you spray Monsanto's Roundup herbicide onto natural soybean plants, they die. But Monsanto's patented "Roundup Ready" soybeans survive. About 71% of all GM crops in the world are herbicide tolerant. The sugar beets planned for 2008 are Roundup Ready. Cotton and corn have also been engineered to produce a pesticide—called Bt-toxin—in every cell. About 18% of GM plants are Bt crops. Another 11% are engineered with both of these traits.

GM papaya is different. Genes are inserted into its DNA so the plant resists a disease called the

ring-spot virus. Hawaiian farmers, politicians, and scientists succumbed to the bad-idea virus and introduced the papaya in 1997 hoping it would “save the industry.” Japan, which had been consuming 60% of Hawaii’s market, [12] shut its doors to the unwanted GM variety. The papaya price immediately dropped from \$1.23 per kilo to just \$.89, and has since fallen below 80 cents—well under production costs. The islands have lost half of their papaya farmers[13] and 28% of papaya acreage.[14] According to a 2006 article in The Honolulu Advertiser, “Hawaii papaya production sank to a more than 25-year low last year despite record demand among US consumers for the tropical fruit.” [15] Non-GM papaya, however, consistently sells for more than the GM variety. Although the GM papaya is still on the market, other failures in the US— GM tomatoes and potatoes—have been removed.

GM crops not only close markets and plunge prices, they force governments to shell out huge sums. According to Charles Benbrook, PhD, former executive director of the National Academy of Sciences’ Board on Agriculture, the US government payments to farmers are up by \$3 to \$5 billion annually due to GM crops.[16] He says growers have only been kept afloat by the huge jump in subsidies.[17]

Those farmers who stick with non-GM varieties are also penalized, as market prices drop across the board. If farmers want to keep their non-GM buyers, they typically have to spend more on GMO testing, buffer zones, and segregation systems including separate storage and shipping channels. Even then, they risk contamination and lost sales.

Similarly, if GM sugar beets are introduced, even food manufacturers who use non-GM sugar may be penalized. For products exported to the EU, for example, their law stipulates that sugar derived from GM beets would have to be labeled as containing genetically modified ingredients. Given the current purchasing guidelines by European importers, any US export that contains sugar would not be accepted unless the manufacturer implements a costly traceability program to verify that no GM sugar beets were used.

GM FARMERS SUFFER

The biotech companies have been quite successful in convincing farmers that GM crops are the ticket to greater yields and higher profits. But the Canadian NFU flatly states, “The claim that GM seeds make our farms more profitable is false.” [18] Net farm incomes in Canada plummeted since the introduction of GM canola, with the last five years being the worst in Canada’s history. The average GM crop reduces yield. Even a US Department of Agriculture (USDA) 2006 report stated that “currently available GM crops do not increase the yield potential of a hybrid variety. . . . In fact, yield may even decrease if the varieties used to carry the herbicide tolerant or insect-resistant genes are not the highest yielding cultivars.” [19]

Most of the Bt corn in the US is designed to kill the European corn borer. According to the US National Academy of Sciences, [20] before Bt corn was available, only 5.2% of corn acreage was sprayed to protect against the corn borer. The reason, in part, was because the yield loss associated with the pest is only about 4%—not worth the cost of the pesticides. Further, insect infestation is intermittent, not consistent in every season.

A much larger number of farmers, however, now use Bt corn as an insurance policy, just in case their area gets infested during the growing season. According to the USDA, “adoption of Bt corn had a negative impact on net returns among specialized corn farms.” This was likely due to the fact that “the value of protections against the European corn borer was lower than” the higher costs paid for the Bt seed. The USDA “could not find positive financial impacts in either the field-level nor the whole-farm analysis” for adoption of Bt corn and Roundup Ready soybeans. They said, “Perhaps the biggest issue raised by these results is how to explain the rapid adoption of [GM] crops when farm financial impacts appear to be mixed or even negative.”[21]

HERBICIDE TOLERANT CROPS LOWER YIELDS AND INCREASE HERBICIDE USE

Herbicide tolerant crops generally lower average yields. As elsewhere, US farmers had expected higher yields with Roundup Ready soybeans, but independent studies confirm a yield loss of 4-11%.[22] Brazilian soybean yields are also down since Roundup Ready varieties were introduced.[23] In Canada, a study showed a 7.5% lower yield with Roundup Ready canola.[24]

The convenience factor of herbicide tolerant crops is now giving way to a nuisance factor of herbicide tolerant weeds. Overuse of Roundup is causing a huge problem of weeds that are resistant to its active ingredient glyphosate. Herbicide use in the US was up 138 million pounds in the first nine years after GM crops were introduced.[25] That increase is accelerating, with approximately 120 million more pounds used in years 10 and 11.[26] Roundup Ready soybeans are also associated with higher herbicide use in Brazil. As weeds fail to respond to Roundup, farmers rely on more toxic pesticides. Over the past two years, for example, use of the highly toxic 2,4-D was up by 237% in the US.

UNPREDICTED PROBLEMS PLAGUE GM COTTON

The erratic performance of GM cotton illustrates the unpredictable nature of genetic engineering. When Monsanto's GM cotton varieties were first introduced in the US, tens of thousands of acres suffered deformed roots and other problems, forcing the company to pay out millions in settlements.[27] In China, Bt cotton appeared to offer higher net returns, better yields, and pesticide reduction when first introduced in 1997.[28] By 2004, however, the cotton became more susceptible to other non-target pests, resulting in damage and forcing farmers to spray 15-20 times more than before. According to a Cornell University study, Bt farmers in China are now earning significantly less than non-Bt farmers.[29] In Indonesia, Bt cotton was also overrun with pests and other problems and was kicked out of the country (in spite of the Monsanto's bribes to 140 officials over 5 years to try to get their cotton approved.)[30] In Andhra Pradesh, India, because Bt cotton yields were down the first year by 52% and performance was unpredictable over the next two, non-Bt farmers earned 60% more over that time.[31] There was a long list of problems associated with the GM variety, including failure to germinate, drought damage, root-rot, leaf curl virus, brittle stems, increased pests, smaller bolls, increased labor requirements per acre, and a shorter harvest season.[32] The Maharashtra State Department of Agriculture also reported "the average boll weight" was less and "the staple length of the Bt cotton" was shorter, so that Bt cotton sold for "lower prices." [33] The Andhra Pradesh Agriculture Minister demanded that Monsanto pay recompense for farmers losses,[34] several Bt varieties were banned by state governments, and official reports showed massive losses. Monsanto nonetheless continues to claim that its Bt cotton is performing well. They commissioned their crop evaluation studies, however, using market research agencies, not scientists. One report, for example, claimed 4 times the actual reduction in pesticide use, 12 times the actual yield, and 100 times the actual profit.[35] Angry, indebted Indian farmers held violent street protests, burned seed outlets, and even "tied up . . . Monsanto representatives in their villages," until the police rescued them.[36] Thousands of Bt cotton farmers also committed suicide—the rate in one region was one suicide every eight hours.

CONTAMINATION INEVITABLE

In spite of biotech industry assurances that contamination wouldn't be a problem, it has been a consistent and often overwhelming hardship for seed dealers, farmers, manufacturers, even whole food sectors. The biotech industry recommends buffer zones between fields, but these have not been competent to protect non-GM, organic, or wild plants from GMOs. A UK study showed canola cross-pollination occurring as far as 16 miles.[37] But pollination is just one of several ways that contamination happens. There is also seed movement by weather and insects, crop mixing during harvest, transport, and storage, and very often, human error. The contamination in North America is so great, it is difficult for farmers to secure pure non-GM seed. In Canada, a study found 32 of 33 certified non-GM canola seeds were contaminated.[38] Most of the non-GM soy, corn, and canola seeds tested in the US also contained GMOs.[39] Contamination can be very expensive. For example, StarLink corn—unapproved for human consumption—ended up the US food supply in 2000. More than 300 packaged food products were subject to recall and the total cost of the debacle was estimated at more than \$1

billion. Numerous smaller scale contamination episodes hurt or ruin businesses every month. Even escapes of experimental GM crops from small trials can devastate an industry. An unapproved GM rice variety, last field trialed in 2001, was discovered in US rice stocks in 2006. Within two days of the announcement, US rice futures dropped \$150 million and the final price tag for industry is estimated at \$1.2 billion.[40] In Thailand, even news that "some GM papayas were removed from the Khon Kaen research centre" caused a loss of the European market. A papaya grower said, "Importers cancelled orders and never asked for Thai papayas again." [41] Thefts from Hawaiian papaya trials also preceded commercialization there, where the GM variety eventually caused massive contamination. In one study, 50% of the organic and wild papayas tested were genetically engineered.

Contamination also occurs year to year in the same field. About 10% of canola seeds, for example, fall to the ground and are not harvested. They can germinate in subsequent years as "volunteer" crops. A UK study showed that if a farmer plants GM canola for one year and non-GM thereafter, unless he undertakes stringent control measures, his or her harvest will continue to have more than 1% GM contamination for about 16 years.[42]

If the farmer rotates from GM canola to another crop, he has another problem. GM canola is herbicide tolerant. Killing the volunteer crops may require using more toxic herbicides. In Canada, there are three herbicide tolerant varieties—two GM and one conventional. Due to cross pollination, studies have found canola that is resistant to all three types of herbicides. But it gets worse. Canola can cross pollinate with several weedy relatives such as wild mustard. Now these pollinated weeds have also developed resistance to weed killers and become "super weeds." There is no technology to fully eradicate GM contamination from the environmental gene pool. Thus, the self-propagating genetic pollution caused by today's GMOs could theoretically outlast the effects of global warming and nuclear waste.

GM FREE ZONES POP UP AROUND THE WORLD

The natural response of farmers and governments around the world to the threat of GMOs has been to create GM free zones, moratoria, or other types of restrictions.

When Monsanto pushed hard to introduce GM wheat, the North American wheat industry, which had witnessed the fall of the corn, soy, and canola markets, were up in arms. More than 80 percent of US and Canadian foreign wheat buyers said they didn't want GM wheat and might shop elsewhere if it were introduced. An Iowa State University economist projected a loss of 30-50% of the US wheat exports and a drop in prices by about a third.[43] More than 200 groups, including the US and Canadian National Farmers Unions, the Canadian Wheat Board, and the American Corn Growers Association, lobbied against Monsanto. They wanted North America to be a GM-wheat-free-zone. Monsanto withdrew its application on May 10, 2004.

When Hawaii coffee growers realized that GM coffee might destroy its premium market, it successfully lobbied for the University of Hawaii not to develop any varieties. Leaders in the rice, potato, flax, and sugar beet industries have also protected themselves by successfully blocking GM varieties.

More than 4500 jurisdictions on Europe have created GM free resolutions or laws, and countries and regions in every continent similarly have growing restrictions or complete bans.

SWIMMING AGAINST THE TIDE

In Iowa State University a few years ago, a memo was circulated to faculty and staff encouraging them to promote to farmers the idea of selling according to what the market wants. But there was an added point. GMOs were specifically cited as the exception! The very pro-GMO "land grant" university, which receives funding from the biotech industry, wanted their staff to promote GMOs knowing that they have been overwhelmingly rejected by consumers, retailers, and food companies since introduced in 1994.[44] "The depth of market rejection," according to the Washington D.C. based Center for Food Safety, "is arguably unparalleled by any other consumer product." [45]

Dan McGuire, Program Director of the American Corn Growers Association says, "Even in the face

of all these negative market signals, it appears that some in the US are willing to promote biotechnology no matter how negative the impact is on US exports and commodity prices. That arrogant strategy is turning out to be a 'market development in reverse' program." ACGA's CEO adds, "An explanation is also owed our foreign customers on why the United States isn't leading the effort to promote and sell the type of commodities and products they want and demand." [46]

NON-GMO TIDAL WAVE EXPECTED

At a January 1999 conference in the US, a biotech company spokesperson projected a 95% conversion of all commercial seeds into GMOs within five years. Anderson Consulting also announced that they were working on a strategy for their client, Monsanto, whose stated ideal future was to genetically engineer 100% of all commercial seeds in the world.

Within weeks, that ideal future crashed. On February 16, the UK parliament invited GMO researcher Arpad Pusztai to testify, forcing his former employer to lift their gag order. When Pusztai started speaking about his controversial discoveries about the inherent health dangers of GMOs, the press erupted. By week's end, they had written 159 "column feet" of text, which, according to one columnist, "divided society into two warring blocs." [47] By April 1999, overwhelming consumer resistance to GM foods compelled Unilever to publicly commit to remove ingredients from its European brands. Within a week, nearly all major food companies followed suit.

The same corporations that removed GMOs from their European lines continue to sell them in the US, where only 1 in 4 consumers believe they have ever eaten a GM food in their lives. [48] The fact that GMOs flourish in the United States because of consumer ignorance leaves the industry extremely vulnerable. If some campaign or event were to push this issue above the national radar screen causing sufficient consumer concern, US manufacturers would respond like their European counterparts. The tipping point does not require that a majority of shoppers reject GM foods. If even a small percentage started switching brands based on GMO content, major companies would respond. After all, the products don't gain anything from using them. Their foods aren't fresher, tastier, or healthier.

Any sympathetic media could begin this domino effect. Similarly, a mandate from a prominent religious leader, a popular film, a food scare, or some new research finding, could force a stampede away from GM ingredients.

Already, 29 percent of Americans are strongly opposed to GM foods and believe they are unsafe. [49] But even among the 28 million Americans who regularly buy organic (and therefore non-GMO) food, [50] many do not conscientiously avoid GM ingredients in their non-organic purchases; the products are not labeled. There is a campaign underway, however, that will both educate health-conscious shoppers about GM food dangers and provide clear non-GMO choices in the natural food stores where they shop. Moreover, the natural products manufacturers, who have been bitterly complaining about GMOs for a decade, are now united in an unprecedented initiative to remove all remaining GM ingredients from food products throughout their sector. On top of this, major websites and media channels have committed support by providing regular coverage of the health risks of GM foods. It is expected that millions of health conscious shoppers will soon make brand choices based on non-GMO content, which will force the rest of the food industry into a European-style rejection of GM ingredients.

A tipping point against one GM product has already started in the US. There is a massive industry-wide rejection of dairy products made from cows injected with Monsanto's genetically engineered bovine growth hormone. Over the last year, major dairies, supermarkets, even Starbucks restaurants, have committed to stop using the controversial drug. Articles in the New York Times, Boston Globe and Reuters describe this as "an explosion in the industry," "a tipping point," and a "trend" that does not show "any signs of abating." The transformation was triggered by organizations educating consumers about the health risks of the drug—and many of the same organizations are now focused on GM food crops.

But even if the tipping point is not reached by the consumer education, legislation put forward by the next US president may have the same effect. Hillary Clinton, Barack Obama, John Edwards, and other democratic presidential candidates have all committed to implement what 90% of

Americans have wanted for more than a decade—mandatory labeling of genetically engineered foods. When asked why they want GM foods labeled, most Americans say it is because they want to avoid them. Thus, once a date for mandatory labeling is set, major food companies will almost certainly eliminate GM ingredients from their products before then, to avoid the label.

INDUSTRY FORCED THEIR DANGEROUS AGENDA

If 90% of Americans want GM foods labeled, why hasn't previous administrations given consumers what they want? It is due to the powerful transnational GM seed companies. There are only six, but their influence is enormous. Henry Miller, in charge of biotech issues at the US Food and Drug Administration (FDA) for many years, admitted, "in this area, the US government agencies have done exactly what big agribusiness has asked them to do and told them to do." Monsanto, which has patents on 90% of the plants currently commercialized, wields the most influence. According to the New York Times, "What Monsanto wished for from Washington, Monsanto—and, by extension, the biotechnology industry—got." [51]

In fact, after the White House told the FDA to promote the biotechnology industry, the agency created a new position for Monsanto's former attorney Michael Taylor, who then oversaw the policy for GMOs. Released in May 1992 and still in force, FDA policy states, "The agency is not aware of any information showing that foods derived by these new methods differ from other foods in any meaningful or uniform way." On the basis of this sentence, the FDA claimed that no safety studies are necessary; biotech companies thus determine on their own if their products are harmless. This set the stage for the rapid deployment of the new technology. The seed industry was consolidated, millions of acres were planted, hundreds of millions were fed, consumers and nations objected, laws were passed, crops were contaminated, billions of dollars were lost—and it turns out that sentence was a lie. The FDA was fully aware that GM crops were meaningfully different. That, in fact, was the overwhelming consensus among "the technical experts in the agency." They had repeatedly warned their superiors that GM foods might create unpredictable, hard-to-detect side effects including allergies, toxins, new diseases and nutritional problems. They urged the political appointees to require long-term safety studies, including human studies. The scientists' concerns were kept secret in 1992, but seven years later, internal records were made public due to a lawsuit and the deception came to light. But it was too late. GM crops were widespread (and Michael Taylor had been duly rewarded after leaving the FDA by becoming a Monsanto vice president.)

There has been almost no long-term animal feeding studies, no human clinical trials, and no monitoring of the population to see if GM crops have had the adverse effects described by the FDA scientists. But even among the few serious safety studies that have been conducted, and the reports from farmers around the world, evidence has emerged showing that the government scientists' concerns were justified. GM products have been linked with thousands of toxic and allergic reactions, thousands of sick, sterile, and dead livestock, and damage to virtually every organ and system studied in lab animals. [52]

While this evidence of harm has major implications for the health of the nation, it also carries an economic impact of those companies that have invested and used GM foods and crops. Physicians who have studied the subject are convinced that the dangers are real and are prescribing non-GMO diets to their patients. John H. Boyles, MD, an ear, nose, and throat, and allergy specialist, for example, says, "I used to test for soy allergies all the time, but now that soy is genetically engineered, it is so dangerous that I tell people never to eat it—unless it says organic," (which would mean non-GMO).

There is a lot of unknowns surrounding GM sugar beets. They might become the first Roundup Ready crop to offer consistently higher yields—or not. They might be the first to reduce herbicide use—or not. They might save farmers money and increase farmer profits, or they might not. But irrespective of their agronomic performance, they will thrust the sugar industry, and all manufacturers who use sugar, into the gathering storm of resistance to GM foods as well as all its unknowns for human health and the environment. It seems clear that the time is not right to introduce GM beets.

Jeffrey M. Smith is the author of the new publication Genetic Roulette: The Documented Health

Risks of Genetically Engineered Foods, which presents 65 risks in easy-to-read two-page spreads. His first book, Seeds of Deception, is the top rated and #1 selling book on GM foods in the world. He is the Executive Director of the Institute for Responsible Technology.

www.responsibletechnology.org, which is spearheading the Campaign for Healthier Eating in America. Go to www.seedsofdeception.com to learn more about how to avoid GM foods.

Spilling the Beans is a monthly column available at www.responsibletechnology.org. The website also offers eater-friendly tips for avoiding GMOs at home and in restaurants. Permission is granted to publishers and webmasters to reproduce issues of Spilling the Beans in whole or in part.

The Institute for Responsible Technology is working to end the genetic engineering of our food supply and the outdoor release of GM crops. We warmly welcome your donations and support.

NEW RECIPES

CANDIES

THE PERFECT CHOCOLATE BAR

(Submitted by Cheryl Haynes)

½ cup coconut oil

½ cup cacao powder

½ cup maple syrup

1 tsp. vanilla extract

½ cup chopped almonds

Optional: coconut, berries, etc. to taste

Melt coconut oil into liquid form. Blend liquid ingredients until very smooth. Add more maple syrup or more cacao powder for personal taste. (Cheryl uses a vitamix blender.)

Transfer mixture to separate bowl and stir in chopped almonds and optional ingredients. Spread on a plastic wrap-lined plate or dish and place in freezer to cool.

The chocolate may be scored with a cookie or pizza cutter after ½ to 1 hour of freezing, or break into pieces once fully set. Keep stored in freezer.

REMEMBER TO CHECK OUT THE FORUM FOR GREAT RECIPES FROM YOUR FELLOW SUBSCRIBERS.

Together, we strive for. . .
GREAT HEALTH - GREAT LIFE!