

Jannatpour, Vivienne

From: Arthur Tesla [arthurtesla@yahoo.com]
Sent: Tuesday, June 02, 2009 8:20 AM
To: Jannatpour, Vivienne; Nielsen, Tina; Frye, Renata
Subject: Sierra Club Genetic Engineering Website

I am Opposed to genetically engineered foods! I personally know 300 people who are Opposed to genetically engineered foods! In California, 5 counties voted to ban growing genetically engineered foods!

The Sierra Club, representing 750,000 members is Opposed to genetically engineered foods! Greenpeace is Opposed to genetically engineered foods! Millions of Americans are Opposed to genetically engineered foods! Europe is Opposed to genetically engineered foods! Japan is Opposed to genetically engineered foods! Other countries are Opposed to genetically engineered foods!

Please do not use genetically engineered foods! Why FORCE on people something they do not want?

One website calls Monsanto the most hated company on Earth!

Another website calls genetically engineered foods the largest food experiment in the history of the World!

Genetically engineered foods are dangerous tampering with nature! We MUST STOP genetically engineered foods!

Sincerely, Arthur Tesla

<http://www.sierraclub.org/biotech/>

<http://www.greenpeace.org/international/campaigns/genetic-engineering>

<http://www.centerforfoodsafety.org/>

<http://www.organicconsumers.org/gelink.cfm>

Jannatpour, Vivienne

From: Arthur Tesla [arthurtesla@yahoo.com]
Sent: Tuesday, June 02, 2009 8:33 AM
To: Frye, Renata; Rowe, Glenda; Jannatpour, Vivienne; Nielsen, Tina
Cc: DeLeo, Claire; Hirt, David; Kesler, Jennifer; Coombs, Randy
Subject: Union of Concerned Scientists

Monsanto is a company that made DDT, Agent Orange, Dioxin, PCB's, aspartame, bovine growth hormone, terminator technology. They have a long history of poisoning the environment and people! Nobody in their right mind would do business with this company!

It is not about feeding the world...it is about intellectual property rights, money and greed.

I spend my spare time fighting against gmo. I contact grocery stores, farm groups, the government, consumers and environmental groups.

Genetically engineered crops will contaminate conventional and organic crops. If I don't want it, I have no choice but to fight against it...and I don't want it! Monsanto bought a large fruit and vegetable seed company and they are working on fruits and vegetables next.

It scares the hell out of me!

[From a letter Monsanto wrote me in 2004](#)

1. reduced pesticide use:

The claim: **reduced pesticide use by 46 million lbs. (Crops: insect-protected corn and cotton, herbicide-tolerant canola, corn, cotton and soybean, and virus-resistant papaya and squash)**

Well that certainly is good, to reduce pesticide use. But wait a minute. Monsanto is producing crops that are herbicide tolerant so they can be sprayed with herbicide. If pesticide is bad, than isn't herbicide bad? Part of Monsanto's business has been a large increase in the use of their herbicide on herbicide tolerant crops. This couldn't happen before the advent of herbicide tolerant crops because before that, if you sprayed the crops with Monsanto's herbicide, the crops would die.

In crop year 2000 corn growers sprayed 153 million pounds of herbicides on corn, based on annual field crop pesticide use data collected by the U.S. Department of Agriculture's National Agricultural Statistics Service (NASS, multiple years). Soybean weed management is the second biggest market; about 68 million pounds of herbicide are applied annually.

I wonder what effect all that herbicide has on the environment? You think it might have some effect?

And let's take a look at that again...**reduced pesticide use.** Monsanto is genetically engineering the pesticide into the plant (bt toxin). Is it safe for the consumer to eat bt toxin? Is it natural? This would not have happened in nature. Only through the use of genetic engineering. Monsanto hasn't eliminated pesticide, they've changed its form. What are the ramifications of this?

Wisdom of the Cows, a farmers experience with gmo:

WISDOM OF THE COWS -

In 1998, Howard Vlieger harvested both natural corn and a genetically modified Bt variety on his farm in Maurice, Iowa. Curious about how his cows would react to the pesticide-producing Bt corn, he filled one side of his sixteen-foot trough with the Bt and dumped natural corn on the other side. Normally, his cows would eat as much corn as was available, never leaving leftovers. But when he let twenty-five of them into the pen, they all congregated on the side of the trough with the natural corn. When it was gone, they nibbled a bit on the Bt, but quickly changed their minds and walked away.

A couple of years later, Vlieger joined a room full of farmers in Ames, Iowa to hear presidential candidate Al Gore. Troubled by Gore's unquestioning acceptance of GM foods, Vlieger asked Gore to support a recently introduced bill in Congress requiring that GM foods be labeled. Gore replied that scientists said there is no difference between GM and non-GM foods. Vlieger said he respectfully disagreed and described how his cows refused to eat the GM corn. He added, "My cows are smarter than those scientists were." The room erupted in applause. Gore asked if any other farmers noticed a difference in the way their animals responded to GM food. About twelve to fifteen hands went up. 1

"If a field contained GM and non-GM maize, cattle would always eat the non-GM first." -Gale Lush, Nebraska

"A neighbor had been growing Pioneer Bt corn. When the cattle were turned out onto the stalks they just wouldn't eat them." 2
-Gary Smith, Montana

"While my cows show a preference for open-pollinated corn over the hybrid varieties, they both beat Bt-corn hands down."
-Tim Eisenbeis, South Dakota

According to a 1999 Acres USA article, cattle even broke through a fence and walked through a field of Roundup Ready corn to get to a non-GM variety that they ate. The cows left the GM corn untouched.

Mr. Crew, you are correct, I will never admit that there is anything good about GMO grain. I am sorry that you do not recognize the Internet as the valuable learning tool that it can be. The Internet is an amazing resource to further one's education and understanding. From the comfort of your own home you can access information from all over the world from very credible sources on an innumerable range of subjects.

I began studying how GMOs were made and observing the effects of GMO grains on livestock in 1998. Some of this has been my own experience with livestock as well as the experience of customers that I have the pleasure of working with; I can very definitely say that I cannot find anything good to say about GMO grain. Now I must say that all of the experiences would be described as "anecdotal evidence" by the scientific community and probably called "common sense" to us common folk. There have been a wide range of problematic coincidences related to feeding GMO grains to livestock but for now I will focus on hogs.

Something called Pseudo pregnancies was a problem experienced by four producers in the Harlan, Iowa, area. This happened when they all coincidentally fed the same specific Bt corn variety to their sows. This story was reported in the May 4, 2002 issue of the Farm Bureau Spokesman.

A 6 percent to 15 percent reduction in conception rates of sows has been observed by hog producers who fed GMO grains to their sows. I have witnessed this through the hog producers I have worked with in Iowa, Nebraska and South Dakota. I could go on but they are only coincidences. Why is the reproductive system so affected? Is this important?

On a positive note from hog producers in Minnesota. They only feed non-GMO crops raised in a successful biological farming program to their hogs, they have never experienced problems with PRRS or Circovirus in their hog operation. PRRS and Circovirus seem to go hand in hand with mainstream hog production today.

In reference to your comments about the “truth” of these foreign proteins being broken down in the digestive track, I don't know who your sources are but if you don't mind I will take the word of noted scientists and veterinarians who have extensively studied this rather than your summarization. I also recently witnessed first hand what the “esophageal fundus” of hogs looked like in a hog slaughter plant. The veterinarian who gave us the tour of the slaughter plant showed us what he called a typical fundus, it was riddled with ulcers. The fundus is the part of the intestine through which all of the feed passes on the way to the stomach. It might be safe to presume with the prevalence of GMO crop production today that the majority of hogs are dining on an 85 percent GMO diet. You may remember this explanation about the foreign proteins and the ulcers from Michael W. Fox, DVM, in my last editorial. This may be just a coincidence.

What might be the cause of E.coli, salmonella, ileitis or bloody bowel?

Is it some unknown problem or could it be what the hogs are eating?

Mr. Crew, do you routinely have lush green grass on the edge of your corn fields in the fall when your cornstalks are dry and brittle? Have you yourself ever compared the taste of non-GMO corn and soybeans to GMO corn and soybeans to see if they taste the same?

This may sound silly but anyone who expects their livestock to eat GMO grains should do this taste test themselves before feeding the GMO grain to their livestock. I would not recommend chewing on the GMO grain for very long before spitting it out.

I am glad that we agree on the fact that Jesus Christ is our Savior from sin and the only way to eternal life in heaven. As far as how you think Jesus feels about the manipulation of His creation that will have to be between you and Jesus. I found my answer in Leviticus 19:19 “Ye shall keep my statutes. Thou shalt not let thy cattle gender with a diverse kind: thou shalt not sow thy field with mingled seed.” KJV

Mr. Crew, I will continue to observe the reactions and symptoms of livestock to GMO grain and search for more information on GMOs from sources such as: The Union of Concerned Scientists, www.ucsusa.org; The Ecological Society of America (which represents more than 8,000 scientists), www.esa.org; The Institute of Science in Society, www.i-sis.org.uk; The Food Standards Agency (which has found transgenic DNA from GM soy flour, eaten in a single hamburger and milk shake meal, was found transferred to the bacteria in the gut contents from the colostomy bags of human volunteers) find this story at www.i-sis.org.uk/FSAopenmeeting.php as well as many more sources.

Mr. Crew, there are two positives that I have witnessed in connection with GMO corn: The equipment industry now manufactures and markets corn head reels to assist with the harvesting of triple stack corn hybrids that lay down flat on the ground after the wind blows. There is also a need for special equipment to help get rid of Bt cornstalks that won't break down or decay. This does provide new economic opportunity.

Mr. Crew, I wish you the best in the future and I am sure you will continue to receive the "All is great" information about GMOs from companies like Monsanto who have only your best interests at heart. Have a safe and successful harvest.

- Howard Vlieger (farmer)

plant geneticist said

You are creating a novel organism that's never before existed on the planet. What are the impacts of putting new organisms in the environment?

What are the main problems of genetically engineered crops and seeds? There has been a lot of documentation of unpredictable effects. You engineer an organism to do one thing, it does another...soy beans whose stems crack in the heat because of the unpredictable increase in lignin content to cotton plants whose bolls drop off for no apparent reason...corn plants that exude pesticide into the soil and the pesticide remains in the soil over 200 days.

The claim...

the eight biotech crops grown in the U. S. increased crop yields by 4 billion pounds

This report by the Union of Concerned Scientists says the claims for higher yields from gmo is false. Despite 20 years of research and 13 years of commercialization, genetic engineering has failed to significantly increase U.S. crop yields.

[Failure to Yield: Evaluating the Performance of Genetically Engineered Crops](#)

As the world grapples with concerns about food availability, this groundbreaking UCS report debunks widespread myths about the superiority of GE crop yields.

Farmers in developing countries are protesting the introduction of

transgenic crops, which they claim threatens their livelihoods, their ability

to exchange seeds and biodiversity.

http://www.panna.org/docsWorldBank/docsWorldBank_040915.pdf

Latin America is being invaded by genetically engineered (GE) crops. The promoters of these crops say they will help fight hunger, reduce agrochemical use, and bring prosperity to farmers and rural

communities in Latin America. But so far experience has demonstrated that these novel crops do not fight hunger, do not reduce agrochemical use, do not benefit small farmers, and also create new forms of economic dependence.

Argentina: Soy Republic

<http://americas.irc-online.org/am/738>

GE Soybeans in Argentina--A Tale of Disaster

Organic Consumers Association is a consumer advocate for labeling of **genetically engineered** food. We promote organic food and sustainable agriculture. Watchdog ...

www.organicconsumers.org/ge/argentina100603.cfm - [Cached](#)

<http://www.organicconsumers.org/ge/argentina100603.cfm>

I never heard of a marketing strategy where you try to force on the consumer something they don't want. Consumers around the world are **OPPOSED** to genetically engineered foods!

Jannatpour, Vivienne

From: Frye, Renata
Sent: Tuesday, May 26, 2009 1:51 PM
To: Alexander, Robert; Card, Adrian; Stromquist, Luke; Leffler, Phill; Haverfield, Carrie; Jannatpour, Vivienne; POSAC - Christian Meyer; POSAC - David Batts; POSAC - Eric Hozempa; POSAC - Janice Moore; POSAC - Jason Vogel; POSAC - Lisa Dilling; POSAC - Mary McQuiston; POSAC - Paul Jurasin; POSAC - Sue Cass; Stewart, Ron; Audrey Sheridan; Cindy Torres; Dan Matsch; Elizabeth Marr; Erik Johnson; James England; Mark Menagh; Matt Pierce; Michael Brownlee; Michael Keown; Ramona Clark; Richard Miller; Sandy Cruz; Shanan Olson; Wendy Peters Moschetti
Subject: FW: Genetically Engineered Food

-----Original Message-----

From: berylb1@juno.com [mailto:berylb1@juno.com]
Sent: Tuesday, May 26, 2009 1:37 PM
To: Frye, Renata
Subject: Genetically Engineered Food

I am writing to express my opposition and dismay at the proposal to grow Roundup Ready beets (genetically engineered beets) on Boulder County open spaces. When the current focus is moving toward organic, nontoxic food a move to grow genetically altered food is an abomination. I strongly object to my tax money being used in such a toxic non-sustainable way.

I would suggest that open space be used for totally organic community gardens.

Sincerely,
Beryl Beauchamp
2227 Canyon Blvd. #409
Boulder, CO 80302

Turn life into a beach with a new sandbox. Click now!

<http://thirdpartyoffers.juno.com/TGL2141/fc/BLSrjpTGaFLj2KGwR00mvTrSt07zQF1bDRbbzXB0IKyu4TsoAtXINpotVGA/>

From: Paolo Bonetti [paolo@organicvintners.com]

Sent: Thursday, July 09, 2009 3:27 PM

To: Nielsen, Tina

Subject: Sugar Beets

Follow Up Flag: Follow up

Flag Status: Flagged

Hello Ms. Nielsen,

I would like to voice my concern that I am completely opposed to the use of Roundup Ready Technology for sugar beets being grown in Boulder County.

Please let me know how I may voice my outrage at this proposition through a signature on a petition or at a public hearing.

Regards,

Paolo Mario Bonetti

President

ORGANIC VINTNERS, Inc.

Drink responsibly, drink Organically

1628 Walnut Street

Boulder CO 80302 USA

tel. +1 (303) 245-8773 ext. 17

fax +1 (303) 245-8911

skype: paolo_bonetti

order wines on line: <http://www.organicvintners.com/>

From: Cheryl Furer [cheryleey24@msn.com]

Sent: Saturday, June 27, 2009 7:06 PM

To: Nielsen, Tina

Subject: Spam: Sugarbeet GMOs?

Please NO GMOs!!! Within our lifetime, we may not see all the possible effects that GMOs have to our land, immune systems, and insect species we depend on. The health of our environment, wildlife and humans are more important than money or convenience. We do know that GMOs travel via pollinators and the wind. GMOs also stay on the land for at least 5 years, probability longer, after they have been removed.

Also, I want to be sure you and all others involed in the decision making is clear on this: GMOs are not produced by cross pollination. **GMOs are made from a virus or bacteria invading the DNA of another plant.** This is the only way that the DNA of the orginal plant (tomatoes, Sugarbeets, Soy) can combine witht the DNA of a foreign species (fish, Roundup). For more information here is unbias factual data: <http://en.wikipedia.org/wiki/GMO>

Thank you for your time and consideration.

Sincerely,

Cheryl Furer

cheryleey24@msn.com

From: d2pmcnut@comcast.net
Sent: Wednesday, July 01, 2009 9:43 AM
To: Nielsen, Tina
Subject: Roundup-Ready Sugarbeet Policy

Tina,

Please do not do this to our food supply. This could effect the bee polination and also ground water. I live in Nyland community and this would be bad for us. Please, please, PLEASE do NOT approve this measure!

thanks, David McNutt

From: dave payne [davlst@yahoo.com]
Sent: Thursday, June 04, 2009 1:16 PM
To: Boulder County Board of Commissioners
Subject: Spam: Spam: Open Space farming... Boulder County Commissioners

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Commissioners,

As our representatives, I would like you to know that I feel that planting GMO crops on our Open Space is an ill considered idea. I know you have already set the precedent, but I would not have voted to purchase the land if I knew you were allowing GMO. GMO altered crops have been shown to spread their pollen uncontrollably; resulting in unsuspecting farmers having GMO genes in their own crops ... and being sued by Monsanto for it. As a result, GMO genes have been found in such remote areas as indigenous Mexican corn species; truly an indication of the true nature of wind and bee dispersed pollen - and resulting cross pollination. Your boundary consisting of 100 or 200 feet is a complete joke when the record of actual cross pollination is actually examined.

Additionally, when the probable mutations of insects and the resulting poisoning of the predating wildlife in the food web is considered, the decision to allow GMO on public land is 180 degrees away from the precautionary principle- and one which may result in further acceleration of species extinction.

I hope you have the health of our citizens and the natural ecosystems and succeeding generations as the guiding principle in your decision making. We deserve to be protected from the degradation of excessive chemical usage and un-natural GMO propagation simply because of the prospect of short term profits made by a few. It would be pathetic to find out, 10 or 20 years from now, that the decisions made today to placate Monsanto (and the few farmers and resulting money for county coffers) was a disaster to our ecosystem. Keep in mind that insects are predated by birds which are predated by small carnivores and so on ... Bird eggs have repeatedly been shown to be strongly affected by chemical dispersions. Why even bother enforcing any endangered species preservation when you are agreeing to wholesale poisoning of the food web with such reckless approval of GMO products.

You have the power to encourage responsible use of our public lands. Please

use it wisely. Allow Boulder county to be a model for intelligent choices concerning land use by encouraging more natural choices for crops and land use that would actually enhance our soil viability and have less potential negative impact on our world.

Thank you for your serious consideration,

Your constituent for over 35 years,

Dave Payne

1203 Cherryvale Rd

Boulder, CO 80303

From: Holly and David McNutt [vision@earthnet.net]

Sent: Wednesday, July 01, 2009 10:03 AM

To: Nielsen, Tina

Subject: on GMO's

We can't make it to the meeting on this topic, but want to express our deep concern about the possibility of GMO's in Boulder County. Please do not allow our beautiful land to be polluted with Roundup-Ready Technologies that could harm bees, people, pets, and other living things. If farmers want to grow sugarbeets, that's great – they can grow them the old-fashioned way! – Holly and David and Elliott McNutt

From: Jesse Dow [jesse@diversionconnection.com]

Sent: Wednesday, July 01, 2009 12:28 PM

To: Nielsen, Tina

Subject: GMO crops in Boulder County open space

Please don't allow GMO sugar beets to be grown in Boulder County Open Space. We can't afford to have our local land and local ecosystem be anymore damaged than it already is.

Jesse Dow

From: john gormley [razzathiker@hotmail.com]
Sent: Wednesday, June 17, 2009 11:03 AM
To: Nielsen, Tina
Subject: follow up on gmo crops in Boulder County
Hello Tina,

I was wondering if any decisions had been made, regarding the issue of GMO crops in Boulder County?

I hope the information, i forwarded to you, was helpful.

Below, is another article I've recently come across, relating to this global dilemma.

Thanks again, for you time.

John F. Gormley III
3295 Euclid Ave.
Boulder, CO. 80303
484-431-3377

Biopiracy, GM Seeds & Rural India

By Priya Kumar

URL of this article: www.globalresearch.ca/index.php?context=va&aid=13820

[Global Research](#), June 2, 2009

Introduction

The reality for the average Indian remains the same: agricultural cultivation and the ability to farm is the bedrock of rural living. With its historical practices, values, and communal sentiments of respect, cultivation and the practice of farming has embedded roots. Farming for Indians is not only a source of income – it is a source of culture and identity. Since the late 1990s however, Indian governmental officials have wilfully compromised this sentiment for the 'bright lights' associated with the West.

After over a decade of trade liberalization and free market reforms, mainstream economic development has left rural India to fend for itself. Amidst great levels of industrialization and growth, the vast majority of Indians have been left behind. Agriculture is the primary source of livelihood for some 70% of Indians[1]. Considering the fact that only 1% of Americans and 2-3% of Europeans derive their livelihood from agriculture, this is a huge level of dependence[2].

India's desire to become a member of the World Trade Organization (WTO), and the adoption of the

Trade-Related Aspects of Intellectual Property (TRIPs) specifically has compromised the livelihood of farmers. With the adoption of such neo-liberal policies, the sovereignty of rural India has been threatened. TRIPs in particular has created a gateway for agro-business conglomerates to engage in biopiracy and GM seed monopolization, effectively marginalizing rural communities. Through the manipulation of intellectual property rights (IPRs), conglomerates such as Monsanto have put rural farmers on the defensive. This paper highlights the manipulative nature and destabilizing affects of patents, IPRs and agro-business conglomerates in the context of rural India. Special focus is placed upon the infamous Basmati rice case, and Bt cotton, the first GM seed made available to Indian farmers.

Through these case studies, this paper will illustrate both the intent and impact of agro-business conglomerates and the associated costs incurred by farmers. Centuries of indigenous knowledge, tradition cultivation practises and sharing techniques are being compromised. Many farmers have lost their right to cultivate and control the agricultural production cycle. As a result, farmers increasingly find themselves indebt, disempowered and most alarming, suicidal. With approximately one in every four farmers globally being Indian, the rural lifestyle – the cultural origins of India are being threatened [3]. Agro-business conglomerates are promoting a cycle of dependence, which, if not stopped will carry with it disastrous affects for the entire country.

Key Events and Considerations in History

From its colonial roots to present day, India's history is chequered with multiple patent law structures and IPR debates. Dating back to 1852, under British rule, India adopted (unwillingly so), a specific patent-like structure within its legislative structure[4]. For rural India, these imposed patent laws represented the limits of their control over their resources. Overall, this marginalization became one of the sources for mobilization movements for independence and autonomy. In terms of IPR law, the 1911 Patent Act is regarded by many a crucial document which spearheaded the desire for emancipation and independence from the British[5].

From the time of independence in 1947, up until the 1960s, agricultural development was not a major focus for public debate. Rather, the population was still coming to terms with what it meant to be a sovereign state in the context of global affairs. It was only with the threat of famine in 1961 and severe droughts in 1965 and 1966 that officials recognized the agricultural hardships that plagued rural populations[6]. These hardships provided a justification for both the World Bank and the US to enter India with the promise of “miracle seeds”, assistance and price incentives[7]. These “miracle seeds” were actually hybrid seeds, and resulted in huge yields of food grains. Indeed, the Green Revolution had entered India, and with it came an entirely new concept: non-organic farming.

During the late 1960s, debates focused on finding an appropriate balance between public interest, rural agriculture and India's desire to develop and industrialize at a steady pace. The 1970 India Patent Act internalized these debates. Critical questions emerged with regards to India's interest in limiting patent monopoly, promoting societal creativity, and stable rural agricultural production[8].

The Patent Act was hailed as a fair balance between investor and consumer interests, as it promoted industrial growth in an unrestrictive manner[9]. Plants and animals were restricted, so that they could not be patented, moreover food products, chemical inventions and drugs were eligible for only process patents[10]. Patents were deemed to be valid for 7 years after their date of application[11]. In terms of agricultural IPR legislation, and to the benefit of majority of Indians the 1970 Patent Act is regarded to be extremely restrictive[12]. However, this all changed as India entered a new phase of economic liberalization, in the hopes of being embraced as a viable international trading partner.

In response to the balance of payment crisis, the New Economic Policy of 1991 (NEP 1991) introduced major changes in India[13]. With an emphasis on liberalization, privatization, and the overall globalization of national economic structures NEP 1991 meant a fundamental change for agriculture [14]. Reform policies were fixated upon enterprise expansion, and as a result, agricultural communities since then have continued to suffer. To this day, agricultural development policy, necessary for sustainable industrialization within rural Indian communities, remains absent. With an increased desire to 'catch-up' to international economic powerhouses, deep-rooted industries such as the agricultural sector have taken for granted since 1991. The complete abandonment of rural India has been facilitated by the openness associated with NEP 1991. This process has been exacerbated through India's hoop jumping into the WTO.

Transformation through TRIPs

The transition to the WTO from the GATT marks a crucial time when the rights and sovereignty of rural communities in developing countries was institutionally compromised. This has been accepted by officials as a consequence of increased international economic engagement. In comparison to the WTO, the GATT provided countries with far more freedom to develop and follow their own IPR laws. The GATT was not specific with regards to patent law. A key distinguishing factor of the WTO is the TRIPs agreement. In order for countries to be accepted as members of the WTO, they must adhere to all of its laws, including those of TRIPs. Thus, in order to be given clearance to join the WTO, countries had to amend any national patent law that contradicts TRIPs[15].

India signed into the WTO in 1995 and has since taken many steps forward to be fully embraced by the international community as an excellent trading partner[16]. Since 1 January 1995 for example, India's Patent Office has been accepting all applications for agro-chemical invention product patents[17]. However, this process of patent reformation was not a smooth process. A constant criticism of developing countries has been that they have taken far too long to adopt TRIPs. India's sluggish TRIPs adoption process was criticized by the U.S, who took action by notifying the WTO. In 1998 the WTO publicly ruled that India's failure to fully amend its patent law was in violation of TRIPs, and was overall illegal[18].

In response to such criticisms, the Indian government has undergone multiple IPR legislative changes, the first of which being the 1999 Patent(Amendment)Act[19]. This was a serious legislative amendment, as exclusionary clauses of product patents in areas of food, drugs and medicine were

removed[20]. Moreover, in order to be fully recognized by the WTO, Indian officials altered IPR legislation to allow for the patenting of life forms, living organism derivatives, gene patents and components[21]. National IPR law had to also be changed to allow for patents to be valid for 20 years [22]. Reforms took place again in 2002 and by 2005; India was officially following conditions of TRIPs.

The balanced approach of the 1970 Patent Act has been forever lost. India's desire to become a member of the WTO has come at a very high price: its legislative sovereignty. However, this loss of autonomy has meant a gain for some, namely the U.S. TRIPs has essentially globalized the American understanding of IPR law[23]. The institutional weakness of countries such as India, along with the desire to engage in global trade has capped sovereign thought. TRIPs has put a limit on the capacity to effectively ensure biodiversity, and provide both basic medicine and food to populations[24].

In the context of agricultural cultivation techniques, TRIPs has institutionalized a predictable scheme of 'winners and losers'. Specifically, powerful countries such as the U.S have the knowledge and resources to use TRIPs and IPR law to their advantage. Moreover, such advantages have allowed for western based agro-business conglomerates such as Monsanto to benefit as well. To the dismay of rural farmers, Indian governmental infrastructure cannot effectively compete with the west. Moreover, in some cases government officials have often taken a stance of 'benign neglect' due to the severity of negative externalities emerging from IPR conflicts. The innovations and seed developments of rural India were once priceless – this is no longer the case.

Case Studies – Basmati Rice & Bt Cotton

The following case studies were selected on the premise that they best highlight the self-serving and manipulative nature of agro-business conglomerates. TRIPs has provided the legal apparatus necessary to 'legitimately' engage in biopiracy and seed monopolization. In the context of IPR, India's only other option would be to formally leave the WTO, which for its industrialists and the most powerful is not an option. The actions and techniques of agro-business conglomerates have not gone unnoticed. As, in the words of Vandana Shiva, both conglomerates and TRIPs are “not just for new inventions but for the knowledge of our grandmothers”[25].

The Case of Basmati Rice

Basmati rice, known for its aroma and long grains has its origins in the Indian subcontinent[26]. Across the world, these special rice grains are a staple of South Asian cuisine and history. Basmati meaning “queen of fragrance” and “fragrant Earth” is embedded in Indian folklore and religious practices, in which they often symbolizing growth[27]. According to Haryana Agricultural University, one of the earliest references to the rice was made in poet Varis Shah's 1776 Heer Ranjha[28]. There are approximately 27 distinct documented varieties of Basmati rice[29]. These varieties cover 10-15% of the total rice cultivation area within the county[30]. Geographically speaking, the cultivation of Basmati is partial to the lands of Punjab, Haryana and Uttar Pradesh[31]. Collectively, Indian grows

approximately 650,000 tonnes annually, 400,000-500,000 tonnes of which are exported[32]. With an embedded history and economic ties to specific regions, it is interesting how an agro-business conglomerate could ever mistakenly question the origins of Basmati.

Biopiracy “refers to the use of intellectual property systems to legitimize the exclusive ownership and control over biological resources and biological products and processes that have been used over centuries in non-industrialized culture”[33].

On 2 September 1997, Texas based RiceTec Inc. was granted patent number 5663484, for the genetic lines of Basmati rice, by the U.S Patent and Trademark Office(USPTO)[34]. Immediately, RiceTec began to develop hybrids using various blends of Basmati. Promoted as an, ‘American type of Basmati rice’, RiceTec developed a new plant variety cross between American long-grain and Basmati[35].

Criticism from Indian rice farmers logically ensued, as many were forced to pay royalties to the conglomerate[36]. The production and cultivation of Basmati has with it a history dating back to centuries ago. For farmers, the grain is an entity that is constantly evolving. In the context of India, Basmati rice has always been considered a common resource dependant upon word of mouth knowledge and transfer. Using this logic, RiceTec alleged that the ‘Basmati’ name was in public domain, and that by patenting it; they were in actuality protecting its name and origins[37]. RiceTec soon came out with hybrid versions: Kasmati, Texmati, Jasmati, which for rural farmers clearly illustrated the profit based interest of the conglomerate[38]. Through its acquisition, RiceTec patented some 22 varieties of the rice[39]. One of which being Basmati 867, a rice grain which was very similar to original Basmati but was advertised to have a less chalky more refined taste[40]. With the livelihood of approximately 250,000 farmers in jeopardy, the Indian government finally reacted[41].

In April of 2000 Indian officials publicly pleaded with USPTO to review the RiceTec Basmati case, as Indian exports were beginning to be threatened[42]. Government officials were armed with hundreds of pages of scientific data proving that the distinguishing characteristics of RiceTec's rice were also found in Basmati[43]. Moreover, the use of the name ‘Basmati’ itself was misleading for customers considering that the product was a hybrid grain[44]. The name ‘Basmati’ carries with it a reputation of culinary excellence, and RiceTec was benefiting from it. Under Article 23 of the TRIPs agreement, using words such as “kind”, “type”, and “style” is illegal, and RiceTec had used such words numerous times in advertising schemes[45].

Moreover, considering the geographical indicators clause of TRIPs, the entire process of approval and acquisition of RiceTec's Basmati patent can be deemed to be illegal. Article 22 of the TRIPs agreement, (the geographical indicator clause) prohibits the use of both direct and indirect uses of a goods geographical origin[46]. In this respect, Basmati is to the India what Champagne is to France, part of the regional identity.

On 14 August 2001 USPTO overturned a large amount of claims held under Patent No.5663484[47]. Amidst great public scrutiny and criticism, RiceTec lost the right to use the ‘Basmati like’ advertising

slogan. At the discretion of USPTO, out of 20 Basmati patent claims, 15 were withdrawn[48].RiceTec was able to keep their Indian-American hybrids Texmati, Jasmati and Kasmati[49].To the dismay and outrage of citizens and farmers, after the patent withdrawals, the Indian government publicly stated they were very satisfied and wished to drop all other charges.

Overall, the most appalling aspect of this infamous case is not the manipulative nature of RiceTec. Rather it is the lack of immediate government response. As previously stated, officials only became concerned after Basmati exports were felt to be in jeopardy. The overstretching nature of patent No.5663484 was not really a concern for Indian officials. It was only when citizen groups filed a Public Interest Litigation (PIL) claim to the Supreme Court, that the Government of India were compelled to act against RiceTec[50].Moreover, the claims made to USPTO against RiceTec, concentrated on the actual Basmati grain (exports) and neglected areas of seed and plant biopiracy[51]. Unfortunately, the concerns and losses incurred by rural farmers were not a concern for officials. The 15 withdrawn patent claims granted by USPTO are the result of many letters contesting the patent, citizen protests and large-scale rural movements[52].

Understanding Basmati Biopiracy

Vandana Shiva makes it clear, that yes “[w]e have won the Basmati biopiracy battle, though the war for defence of farmers' rights, indigenous knowledge and biodiversity still needs to be won”[53]. Although the battle for Basmati rice is in relative terms, over, there remains a great amount of uncertainty as to how such a blatant act of piracy could occur with minimal opposition from officials. Beyond biopiracy,RiceTec's Basmati patent is a case of resource piracy as a natural resource (Basmati rice) was taken from a specific country without any sort of granted permission or public recognition [54]. It is a case of economic piracy as RiceTec used the term ‘Basmati’, to advertise their hybrid rice, in the hopes of appealing to customers looking for an aromatic product similar to the original Basmati [55].Finally, it was a case of both intellectual and cultural piracy as RiceTec through its acquisition of Basmati, patented a key heritage piece of rice producing rural communities without permission[56].

Based upon the above legal inconsistencies, it is clear that the TRIPs agreement promotes a rather unfair, biased one-sided pro West framework. Developing countries like India have the choice of either conforming, and as result turning the blind eye on their population, or being blacklisted from international organizations. In the face of trade, Indian officials have consistently chosen to deny their population of basic sovereign rights. The externalities of which threaten the core characteristics of what it means to be a farmer in a rural Indian agricultural community.

The severity of RiceTec's biopiracy cannot be underestimated, as the conglomerate was claiming to have invented the physical characteristics of Basmati such as the plant height and grain length[57].By claiming ownership of the rice plant itself, RiceTec was directly threatening rural farming communities. Throughout centuries of development, Indian farmers have produced some 200,000 varieties of rice[58].Therefore, if RiceTec were to own the Basmati rice plant itself the autonomy and ability of farmers to engage in common sharing techniques, (a fundamental of rural communities),

would be compromised. To the dismay of farmers, in the eyes of both IPR law, and the TRIPs agreement, it would be considered illegal to share cultivation techniques. “Of all the IPRs contained in the TRIPs agreement, the patents provisions may be the most significant in terms of economic implications, especially for developing countries”[59]. For rural farmers, patents stand to compromise what is known as ‘the commons’.

Agricultural knowledge and cultivation techniques passed down from older generations carry with them inherent seed adaptations and innovations[60]. Therefore, any sort of seed patenting is limiting indigenous common knowledge. The ability to work the land and use the surrounding environment is compromised for monopolistic like conglomerate seed promotion. Biodiversity is inherently threatened, as farmers no longer have the rights to freely work their crop. Moreover, agro-business conglomerates have no real responsibility to ensure that farmers from developing countries are taken care of[61]. Ultimately, governing bodies are held responsible for their rural populations, and in the case of India, this is not being done. Indeed, with concerns over export levels, official did intervene and put an end to RiceTec's overarching patent.

Institutional Realities

Marginalization and destabilization of rural Indian farmers has been institutionalized through the acceptance of TRIPs. Moreover, all previous “equitable benefit sharing” as envisioned by the UN Convention for Biological Diversity (CBD) have been permanently undermined[62]. Taking place in 1992, in the Rio de Janeiro the CBD advocates for conservation, sharing and state sovereignty over resources[63]. Promoted primarily by developing countries like India, the CBD attempts to integrate and protect indigenous traditional knowledge. Concretely, the CBD called for the sovereign rights of rural resources[64].

Developing countries take particular issue with the TRIPs agreement's lack of prior art protection. Many calls have been made for complete disclosure in the context of granting patents based on novelty (Article 27.1)[65]. Opponents of TRIPs advocate for an amendment, which would institutionalize a prior art clause forcing patent applicants to divulge full information and history of their ‘innovation’[66]. The support of such an amendment has sparked much controversy, and in the name of traditional knowledge, many developing countries have remained fearless in their pursuits.

This however has not been the case for governing Indian officials. In fact, continuous efforts have been made to further integrate with international economic powerhouses such as the U.S. The U.S is the number one supporter of TRIPs and does not advocate in any way for the CBD[67]. Furthermore, due to the fact that the CBD is a framework and not legally binding per say, TRIPs has continued to remain a priority for developing countries that wish to gain international economic acceptance.

In an effort to conform to TRIPs, in 2001 India enacted the Protection of Plant Varieties and Farmer's Rights Act (PVP)[68]. To allow for plant breeder's rights (PBR), a community gene fund was set up however it has since been cut, only to resurface as a responsibility of the Biological Diversity Act[69].

The lack of care for rural communities is evident in the inability of governing officials to fully set up an agricultural policy to the benefit of farmers. Although PBR promotes seed saving, exchange and selling, seed varieties must be protected[70]. In reality most rural farmers do not have the resources to legally protest their varieties. Moreover, such an imposition of a legal structure debilitates the fundamentals of common knowledge exchange. In fact, PBR, as a legal apparatus is ensuring the rights of large-scale breeders, not small-scale farmers.

As illustrated in the above case analysis of Basmati rice, Indian officials have not been entirely negligent. However, the social realities spawning from GM seed has been consistently avoided. This is especially visible when considering the affects of Bt cotton, as discussed below.

The Case of BT Cotton

Prior to colonization, cotton was traded in the Indus Valley as mainly a Luxury good[71]. It was only in the 19th century, after colonization that cotton cultivation followed a more mass production like structure[72]. Multiple attempts have been made by various outside actors (namely the British and agro-business conglomerates) to standardize cultivation techniques. In the 1970s, through the introduction of hybrid cottonseeds, the reality for rural farming communities has continuously been characterized by a struggle for sovereignty and control.

Cotton production is a staple of the Indian agricultural economy. Some 7 million farmers depend on the crop for sustainable living, and overall 21% of all cotton produced globally comes from India[73]. However, cotton is a very expensive crop to cultivate. Over half of India's total pesticides (40,000 tonnes) are used in the upkeep of cotton cropland[74]. The prices of inputs such as pesticides have continued to increase. Average expenditure for cotton crop pesticides has increased from Rs. 99 per acre (1972-3) to Rs. 5,934 per acre(1996-7)[75]. For agro-business conglomerates, the related expenses of cotton production are the ideal platform to sell, innovate, and develop their seed monopolies.

Conglomerates have taken advantage of the hardships associated with cotton production, and in the context of India, uneducated desperate rural communities who are merely looking to improve their standards of living are at their mercy. Rural India has been duped. Specifically, the introduction of Bt cotton has compromised the sense of sovereignty felt by farmers and completely destabilized rural communities. It is estimated that in only one growing season, Bt cotton with its massive failures costs farmers a total of Rs. 1.3 billion, over 105,000 acres[76]. The self-serving nature of conglomerates is fully visible when considering the exploitive and destabilizing effects Bt cotton has had on rural India.

Monsanto developed Bt cotton in 1995; the plant was genetically engineered to include insecticide to fight the common bollworm[77]. The seed includes toxins, which Monsanto alleges will reduce costs for farmers. In 1998 Monsanto began a series of Bt cotton trial tests in India, albeit illegally[78]. Monsanto did not apply for trial testing clearance, and was not given any sort of formal approval to conduct studies on rural land. Thus from its origins, in the eyes of scorned farmers, Monsanto's "concern" for rural communities is an outright facade.

After going public with the results of their trial tests, Monsanto promoted Bt cotton as the perfect cost-cutting crop for rural India. It was claimed that yield output would increase to 3,300 pounds per acre [79]. Moreover, Bt cotton would need to be sprayed approximately 2.6 times less than both organic and hybrid cotton [80]. Even though inputs were more expensive, the genetically engineered seed would be sprayed sparingly, ultimately reducing the cost of cultivation by 30% to 40% at least [81]. With promises of higher yields and lower costs, the Indian government officially approved three Bt cotton hybrids (MECH 12, MECH 162, MECH 184) for clearance in 2002 [82].

This clearance was given to Monsanto in conjunction with the Maharashtra Hybrid Seed Company (Mahyco), which conveniently enough, Monsanto has a 26% stake in [83]. Bt cotton was the first GM seed to be given clearance by the Indian government and is now viewed as the example of how agribusiness conglomerates impact vulnerable rural communities. As highlighted below, pockets of rural Indian communities have been completely marginalized to the point of despair due to crop failure, resulting in unfathomable consequences.

The “success” of Bt cotton is a fabrication by Monsanto-Mahyco. It is unrealistic to assume that such conglomerates would publish data that contradicted their associated financial interests of seed monopolization. A 2004 Monsanto study predictably claimed Bt cotton to considerably improve cotton farmer crop yields returns. The countrywide study claimed that yields increased by 58% resulting in an increase in farmer incomes by 60% [84]. Just two years prior, (23 October to 2 November 2002), the Research Foundation for Science, Technology and Ecology (RFSTE) undertook a survey study in the attempts to highlight the real affects of Bt cotton on yields. Firstly, it was discovered that in reality bollworm pests attacked Bt crop far more often than compared to simple hybrid and organic cotton crops [85]. Secondly, the claim of 3,300 pounds of yield per acre was never realized, with the highest yield being 880 pounds per acre [86]. Finally, the RFSTE survey concluded that organic and hybrid cotton producing rural communities produced an average yield of 1,000 pounds per acre [87].

The Cycle of Destabilization

Once Bt cotton is planted, the cycle of systematic destabilization begins, and not much can be done at that point to mitigate the losses that will soon be incurred by the farmer. Conglomerates are aware of the domino like effect Bt cotton can have within rural communities. Nearly, 90% of all bollworm larvae leave the fields [88]. Cross-pollination is inevitable, and is a preferred tactic to gain new “customers”. Bt crop is supposed to be surrounded by a 5 row deep sanitary organic band, essentially producing a cultivation ratio of 80:20 [89]. Many farmers are unaware of this principle, as conglomerates stand to gain new business from cross-pollination mistakes and do not fully divulge GM cultivation techniques. In 2004, Bt cotton crop occupied 1.3 million acres of Indian land, approximately 7% of the total land allocated to cotton production [90]. By 2006, Bt cotton cropland had increased to almost 3.8 hectares [91].

Even though it is a serious problem for farmers, not all increases can be attributed to cross-pollination. In promoting Bt, the rhetoric used by Monsanto is extremely enticing. Advertising campaigns often use

notable public figures that appeal to the public, especially rural farmers. The promise of less input costs has been the primary means through which Bt cotton has gained government support and approval. As a result, the utter failure of the crop is a major surprise for governing bodies, which, at the present time do not know how to react.

Resistance & Crop Failure

Monsanto has publicly admitted that resistance levels of the genetic pesticides in Bt seeds do wear down after the first few harvested seasons [92]. The failure of Bt cotton in this sense is real, and depending upon the farmer, can lead to multiple negative consequences. At the most basic level, all farmers incur the financial cost of the actual seed. This is significant considering that Bt cotton seeds are approximately four times more expensive than both organic and hybrid seeds [93]. Also, with the purchase of the Bt seed farmers must give up the right to harvest their own seed, which they have evolved over the years.

This is why Bt cotton is especially debilitating, by giving up their indigenous cottonseed; the farmer becomes locked into a cycle of agro-business conglomerate dependence. Farmers have limited control over the Bt seed, as the cycle of production becomes more of a scientific chemical mixing game. Bt cotton cropland is sprayed as many as 30 times a year due to increased bollworm resistance [94]. Such an increased level of chemical use has killed off many natural 'enemies' of bollworm pests including certain wasp and spider species [95]. It took some \$500 million (U.S) to develop specific pesticides that fight the bollworm pest, and it took only 5 years to develop resistant bollworms [96].

Moreover, such a high level of bollworm resistance has allowed for other sucking pests, such as spider mites, leaf hoppers and beet worms to increasingly attack Bt cotton fields [97]. The Bt pesticide does not have the genetic characteristics to effectively fight off these pests. Thus, farmers are forced to purchase inputs in the form of pesticides, herbicides and insecticides on a continuous basis. Bt cotton has developed a cyclical like purchasing scheme where farmers constantly have to salvage their crop through inputs. This has put majority of Bt cotton farmers in debt, as they cannot afford the endless array of necessary inputs. If they do not upkeep their crop, their livelihood is threatened, resulting in greater poverty and conglomerate dependence. With the interest rate of loans between 36% and 50%, farmers in these communities are increasingly becoming indebted [98]. These loans are not coming from officials; rather they are from private rural lenders and agro-business conglomerates.

The above has been disastrous within India's entire cotton belt, however due to biophysical realities, it has severely affected the states of Andhra Pradesh (AP) and Maharashtra. In the case of AP, cropland has not reacted well to the genetic characteristics of Bt. Non GM seeds need approximately 3,000 litres of water to produce one kilo of crop, anything else (including Bt seed) needs at least 5,000 litres of water to produce one kilo [99]. AP often suffers from drought, and as a result, Bt cotton crops within the state has caused massive destabilization.

Bt Cotton farmers in AP spray fields more often, have lower yields and as a result obtain less profit

then farmers in other states. All three approved Bt cotton varieties have not been able to survive and overcome the extreme nature of AP droughts[100]. In 2003, Mr. V.S Rao, Agricultural Minister of AP commented that in the case of Bt cotton, “farmers have not experienced very positive and encouraging results”[101]. Cotton from Bt fields is characteristically very dry and small, and produces low levels of crop yield, ultimately limiting its market value[102].

Moreover, AP farmers cannot afford to properly irrigate Bt cotton crops, further diminishing their returns. With lower associated income returns, AP cotton farmers are more likely to fall into debt because no matter what, they must purchase the necessary inputs if they wish to sustain the Bt cotton crop. Roughly 80% of all loans given to AP farmers come from non-official sources[103]. These third parties, spare nothing, and benefit from the fragile nature of rural farmers. For many farmers, Bt cotton is truly a nightmare with no real end in sight. The despair felt by these farmers has manifested itself in both increased levels of debt and most alarming, increased levels of suicide.

Farmer suicides in AP have increased after Bt cotton was both approved and promoted by governing officials. The financial stress associated with Bt cotton, has indeed been grave. Moreover, with the adoption of such GM seeds and subsequent failure, many rural farmers have increasingly felt deep remorse. This sentiment of loss is a result of much regret associated with leaving cultural farming techniques, which carried with a sense of community and family[104]. The loss of control over crop in both the indebted and sovereign sense is simply too much for many farmers.

A similar trend is visible in Maharashtra, which is home to some 3.2 million cotton farmers[105]. Farmers using Bt cottonseeds have continuously complained of wilting crops[106]. Better known as ‘rot root’, Bt cotton is not accustomed to the biophysical environment of many regions in India. Moreover, in all cases of Bt failure, farmers have been unable to compensate for the natural environment in which they are cultivating the seed. The scientific regulatory environment needed for successful Bt returns, in reality is not feasible for farmers who are used to working their land. This frustration has taken its toll on farmers. The state has confirmed that over 200 farmer suicides occurred between July 2005 and February 2006 alone[107]. As in the case of AP, many of these farmers were indebted. Some 60% of the farmers who took their lives during this time were indebted, between \$110 and \$550 dollars[108].

Insect-resistant seeds such as Bt cotton are the only transgenic varieties, which have been widely adopted by small-scale farmers[109]. Moreover, some 75% of cultivatable Indian land exists in dry areas[110]. There exists a large population of rural farmers who are experiencing problems with Bt cotton crop, due to their reliance on natural rainfall. For conglomerates and respective shopkeepers, they are the perfect demographic. This is exacerbated by the fact that these farmers have minimal control over their land. Rural farmers have experienced a “deskilling” of cultivation techniques, which carries with it severe social and ecological consequences [111]. The cultural importance of knowledge sharing is being lost to scientific IPRs. Due to the rule-based scientific formula techniques of cultivation associated with GM seeds like Bt cotton farmers can no longer work their land. Through massive debts and depression, GM seeds such as Bt cotton have increased levels of rural bankruptcy and suicide[112].

Movements Against Destabilization

Overall, since 1997 over 100,000 farmers have committed suicide nationally – 86.5% of which carried an average debt of \$835[113]. The Indian government has continuously attributed these suicides to mental illnesses and domestic problems, effectively avoiding the epidemic[114]. This level of despair must be addressed, as the consequences are becoming increasingly burdensome for rural inhabitants.

The majority of rural Indian farmers inherit small and median scale farms and small and marginal farmers account for over 70% of all Indian farmers [115]. India has a patriarchal system and men are the head of the household. The majority of individuals who take their lives are male, who through their actions leave the responsibility of an entire family to the eldest female. As in the aftermath of the suicide, remaining family members carry the burden of the unpaid load. If the loan cannot be paid the farm is shamefully confiscated by third party lenders[116]. Under a great deal of harassment, loans may be paid off, in which case children characteristically must drop out of school, and work to gain income [117]. The widow's burden has been the source of much social upheaval in rural communities.

In response to such devastation, many social movements have emerged in hopes of mitigating the damaging effects agri-business conglomerates in conjunction with IPR manipulation have had. Self Reliance Education and Employment (SEEE), is one of these movements. SEEE, mainly focuses upon the outward mobility of rural women, who are most severely impacted by suicide. Some 25,000 women from impoverished rural communities have received vocational training in hopes of moving beyond the despair associated with farming[118]. The Navdanya, a seed movement promoted by Vandana Shiva is another example of rural community mobilization in the face of farm failures. Navdanya, focuses upon protecting Indian seed biodiversity, and has over 16 community seed banks in place in over 6 Indian states[119]. Patent law is treated as an illegal entity[120]. Again, moving beyond the status quo, a focus is placed upon ensuring that the rights of farmers are maintained.

With the above crisis in mind, it appears as though the government has abandoned rural populations. A weak institutional framework has left minimal outlets of recourse for farmers. The Indian government has continuously compromised rural populations for the industrial benefits they have realized through the 'free markets' associated with both NEP 1991 and the WTO. Liberalization has forced farmers to "distress sale" tactics, and most worrisome, has pushed many inhabitants to work outside rural communities[121]. It is estimated that by 2020, some 70% of Tamil Nadu, 65% of Punjab, and 55% of Uttar Pradesh migration will come from rural communities[122]. These, agricultural refugees 400 million strong, are a reality which governing officials will have to address[123]. The majority of the industrial growth taking place in India is concentrated in urban centres. This growth will be seriously undermined if rural communities continue to be neglected.

Concluding Remarks

The above case studies highlight the manipulative nature of both agro-business conglomerates and

current realities of IPR law. Developing countries such as India have few options; either comply with international agreements like TRIPs and engage in forward moving trade at the cost of rural communities or be blacklisted from the WTO for not following prerequisites of open borderless free markets needed for enrolment. Indian officials have chosen the latter, which has altered seed production from a need driven agricultural cycle to a supply and profit driven industry. This industrialization of agricultural production has stripped away the identity associated with indigenous farming and rural communities – the idea of rural self-sufficiency has been compromised[124].

This paper has highlighted the real abilities of agro-business conglomerates such as Monsanto, Mahyco and RiceTec, who are relentless in their desire to gain control and monopolize rural communities. These attempts are both explicit, as visible in the case of Basmati rice and implicit, as visible in the case of Bt cotton. Common themes emerge from both of the above case studies, which effectively characterize the harsh consequences incurred by rural Indian communities.

Thematically, the agricultural cycle of production is being destroyed. For farmers, it is no longer a right but a privilege to have the ability to grow a seed, harvest the crop, and sell the yield in a cyclical process. In the case of Basmati, there is a third party royalty fee to be paid in order to even access the ability to grow the seed. Historical knowledge, family recipes and cultivation skills were no match for the legal apparatus working in favour of RiceTec. Thousands of years of culture has been threatened within a few years, and so easily, with minimal recourse. In the case of Bt cotton, the freedom to grow a seed with bare hands was capped due to scientific genetic patents.

The right to produce has been manipulated by agro-business conglomerates leaving farmers with a limited capacity to autonomously control the agricultural production cycle. IPR structures have fuelled the increase in economic growth and investment levels within India. Conglomerates are spending some \$7 billion a year on research and development[125]. By 2004, Monsanto alone had applied for a total of over 70 patents in India [126]. Such high levels of investment make it clear that there is no real solution or conclusion in sight.

Until governing officials both domestically and internationally take a step back to realize the disastrous effects IPR law has had on rural communities, change will be hard coming. Amidst great industrial development potential, rural India is the loser. These losses threaten sovereignty, income, biodiversity, culture, community and the very identity of the average Indian[127].

Notes

[1] Bhargava, Pushpa M., (2002), “GMOs: Need for Appropriate Risk Assessment System”, *Economic and Political Weekly*, Vol. 37, No. 15, 1402.

[2] Ibid.

[3] Shiva, Vandana, (2000), *Stolen Harvest, the Hijacking of the Global Food Supply*, South End Press, Cambridge Mass, 7.

[4] Dasgupta, Biplab, (1999), “Patent Lies and Latent Danger: A Study of the Political Economy of Patent in India”, *Economic and Political Weekly*,

Vol. 34, No. 16/17, 980.

[5] Shiva, Vandana, (2001b), *Protect or Plunder? Understanding Intellectual Property Rights*, Cox & Wyman, Reading United Kingdom, 104.

[6] United Nations, *International Farmer Suicide Crisis*, 5.

[7] *Ibid.*

[8] Shiva 2001b, 104.

[9] Shiva 2001b, 7.

[10] Rai, Saritha, (2001), "India-U.S. Fight on Basmati Rice is Mostly Settled", *The New York Times*.

[11] United Nations, (1997), "The TRIPS agreement and developing countries" United Nations Conference on Trade and Development, prepared by UNCTAD Secretariat, New York, 24.

[12] Ramanna, Anitha, (2005), "Bt Cotton and India's Policy on IPRs", *Asian Biotechnology and Development Review*, Special Issue on Biotechnology and Intellectual Property Rights, Vol. 7 No 2, 44.

[13] Ahluwalia, Montek S, (2002), "Economic Reforms in India Since 1991: Has Gradualism Worked?", *The Journal of Economic Perspectives*, Vol. 16, No.3, 2.

[14] Moni, Madaswamy, "Impact of economic reforms on Indian Agricultural Sector: Application of geomatics technology to reduce marginalisation and vulnerability of small farmers in India", National Informatics Centre, Ministry of Information Technology, New Delhi, 1 – 2.

[15] Dasgupta, 981

[16] Shiva, Vandana, (2005), *India Divided, Diversity and Democracy Under Attack*, Seven Stories Press, New York, 83.

[17] United Nations, (1997), "The TRIPS agreement and developing countries", 24.

[18] Shiva 2000, 89.

[19] Shiva 2001b, 105-5.

[20] *Ibid.*

[21] *Ibid.*

[22] United Nations, (1997), "The TRIPS agreement and developing countries", 30.

[23] Shiva 2001b, 3.

[24] *Ibid.*

[25] *Ibid.*

[26] Rao, M.B and Guru, Manjula, (2003), *Understanding TRIPS: Managing Knowledge in Developing Countries*, New Delhi, Response Books; Thousand Oaks CA, Sage Publications, 134.

[27] Jamil, Uzma, (1998), "Biopiracy: The Patenting of Basmati by RiceTec", Commission on Environmental, Economic and Social Policy-South Asia & Sustainable Development Policy Institute.

[28] Shiva 2001b, 56.

- [29] Shiva 2000, 85.
- [30] Ibid.
- [31] Basmati Case Study, Trade Environmental Database, American University
- [32] Shiva 2001b, 56.
- [33] Shiva 2001b, 49.
- [34] Shiva 2001b, 57.
- [35] Rao and Guru, 134.
- [36] Shiva 2001b, 57.
- [37] Rao and Guru, 134.
- [38] Shiva 2000, 85.
- [39] Canada. International Development Research Centre, Viewpoints.
- [40] Jamil, Uzma, (1998), "Biopiracy: The Patenting of Basmati by RiceTec".
- [41] Shiva 2000, 86.
- [42] Rai, Saritha, (2001), "India-U.S. Fight on Basmati Rice is Mostly Settled", The New York Times.
- [43] Ibid.
- [44] Rao and Guru, 134.
- [45] Ibid.
- [46] United Nations, (1997), "The TRIPS agreement and developing countries", 9.
- [47] Shiva, Vandana, (2001a), "The Basmati Battle And its Implications for Biopiracy and Trips", Centre for Research on Globalization.
- [48] Rai, Saritha, (2001), "India-U.S. Fight on Basmati Rice is Mostly Settled", The New York Times.
- [49] Shah, Anup, (2002) "Food Patents – Stealing Indigenous Knowledge?" Genetically Engineered Food.
- [50] Shiva, (2001a).
- [51] Ibid.
- [52] Ibid.
- [53] Ibid.
- [54] Shiva 2001b, 62.
- [55] Ibid.
- [56] Ibid.
- [57] Shiva, (2001a).
- [58] Shiva 2000, 7.
- [59] Rao and Guru, 133.
- [60] Shiva 2001b, 47.
- [61] Herring, Ronald J., (2007), "Politics of Transgenic Property in India: Biopiracy, Monopoly Power or Cottage Industry?", 48th Annual Convention of the International Studies Association, Feb 28 – Mar 3, Chicago, Illinois, 1.
- [62] Rao and Guru, 160.
- [63] Ibid.
- [64] Utkarsh, Ghate et al., (1999), "Intellectual Property Rights on

Biological Resources: Benefiting from biodiversity and people's knowledge”, Current Science, 1420.

[65] Suppan, Steve, “Amending WTO intellectual property rules to prevent bio-piracy and improve patent quality”, IATP Trade and Global Governance Program,1-2.

[66] Ibid.

[67] Ibid.

[68] Ramanna, 45-6.

[69] Utkarsh, 1419.

[70] Ramanna, 49.

[71] Stone, Glenn Davis, (2004), “Biotechnology and the Political Ecology of Information in India”, Human Organization, Vol. 63, No. 2, 131.

[72]Ibid.

[73] Survival Struggle”, (2001), Economic and Political Weekly, Vol. 36, No. 40.

[74] Ibid.

[75] Shiva 2005, 96.

[76] Shiva 2005, 125.

[77] Shiva 2000, 99.

[78] Shiva 2005, 123.

[79] Shiva 2005, 125.

[80] Qaim, Matin et al., “Adoption of Bt Cotton and Impact Variability: Insights from India”, Review of Agricultural Economics, Vol.28, No.1, 51.

[81] Sai, Y. V. S. T. and David, G. Shourie, (2002), “Bt Cotton: Farmers' Reactions”, Economic and Political Weekly, Vol. 37, No. 46, 4601.

[82] Qaim, 49.

[83] “Genie out of the Bottle?”, (2001), Economic and Political Weekly, Vol. 36, No. 45, 4237.

[84] Gala, Rhea, (2005), “India's Bt Cotton Fraud”, Institute of Science in Society.

[85] Shiva 2005, 124-5.

[86] Ibid.

[87] Shiva 2005, 125.

[88] “GM in India: the battle over Bt cotton”, (2006), Science and Development Network.

[89] Rao and Guru, 164.

[90] Qaim, 49.

[91] Pehu, Eija and Ragasa, Catherine, (2007), “Agricultural Biotechnology Transgenics in Agriculture and their Implications for Developing Countries”, Background Paper for the World Development Report 2008, 7.

[92] Bhargava, 1402.

[93] Sai, 4602.

[94] “Survival Struggle”, Economic and Political Weekly.

- [95] Ibid.
- [96] “GM in India: the battle over Bt cotton”, (2006), Science and Development Network.
- [97] Shiva, V, and Jafri, A, (2003), “Failure of GMOs in India”, Research Foundation for Science, Technology and Ecology.
- [98] Long, Jessica, (2007), “WTO Kills Farmers: India Free Market Reforms Trigger Farmers' Suicides”, Centre for Research on Globalization.
- [99] Ibid.
- [100] Pehu and Ragasa, 8-9.
- [101] Shiva and Jafri, “Failure of GMOs in India”, Research Foundation for Science, Technology and Ecology.
- [102] Ibid.
- [103] Gruère, Guillaume P. et al., (2008), “Bt Cotton and Farmer Suicides in India, Reviewing the Evidence”, International Food Policy Research Institute, 36.
- [104] United Nations, International Farmer Suicide Crisis, 4.
- [105] Sahai, Suman, (2002), “Bt Cotton: Confusion Prevails”, Economic and Political Weekly, Vol. 37, No. 21.
- [106] Pehu and Ragasa, 9.
- [107] Sahai, “Bt Cotton: Confusion Prevails”.
- [108] Ibid.
- [109] Pehu and Ragasa, 4.
- [110] Long, “WTO Kills Farmers: India Free Market Reforms Trigger Farmers' Suicides”.
- [111] Stone, 129.
- [112] Shiva 2000, 101.
- [113] United Nations, International Farmer Suicide Crisis, 11.
- [114] Sahai, “Bt Cotton: Confusion Prevails”.
- [115] Moni, 2.
- [116] United Nations, International Farmer Suicide Crisis, 15
- [117] Ibid.
- [118] United Nations, International Farmer Suicide Crisis, 18.
- [119] Shiva 2000, 3.
- [120] Ibid.
- [121] Moni, 2.
- [122] Sharma, Devinder, (2007), “Displacing farmers: India Will Have 400 million Agricultural Refugees”, Centre for Global Research on Globalization.
- [123] Ibid.
- [124] United Nations, International Farmer Suicide Crisis, 2.
- [125] Shiva 2001b, 4-5.
- [126] Ramanna, 45.

Bibliography

Ahluwalia, Montek S, (2002), "Economic Reforms in India Since 1991: Has Gradualism Worked?", The Journal of Economic Perspectives, Vol. 16, No.3.

Basmati Case Study, Trade Environmental Database, American University
<<http://www.american.edu/ted/basmati.htm>>

Bhargava, Pushpa M., (2002), "GMOs: Need for Appropriate Risk Assessment System", Economic and Political Weekly, Vol. 37, No. 15.

Canada. International Development Research Centre, Viewpoints.
<http://www.idrc.ca/en/ev-64405-201-1-DO_TOPIC.html>

Dasgupta, Biplab, (1999), "Patent Lies and Latent Danger: A Study of the Political Economy of Patent in India", Economic and Political Weekly, Vol. 34, No. 16/17.

Gala, Rhea, (2005), "India's Bt Cotton Fraud", Institute of Science in Society. <<http://www.i-sis.org.uk/IBTCF.php>>

"Genie out of the Bottle?", (2001), Economic and Political Weekly, Vol. 36, No. 45.

Gruère, Guillaume P. et al., (2008), "Bt Cotton and Farmer Suicides in India, Reviewing the Evidence", International Food Policy Research Institute.
<<http://www.ifpri.org/pubs/dp/ifpridp00808.pdf>>

"GM in India: the battle over Bt cotton", (2006), Science and Development Network.
<http://www.scidev.net/en/features/gm-in-india-the-battle-over-bt-cotton.html>

Herring, Ronald J., (2007), "Politics of Transgenic Property in India: Biopiracy, Monopoly Power or Cottage Industry?", 48th Annual Convention of the International Studies Association, Feb 28 – Mar 3, Chicago, Illinois.

Jamil, Uzma, (1998), "Biopiracy: The Patenting of Basmati by RiceTec", Commission on Environmental, Economic and Social Policy-South Asia & Sustainable Development Policy Institute.
<<http://www.iucn.org/themes/ceesp/publications/art-mono/basmati.doc>>

Keayla, B.K., Amended Patents Act 1970: A Critique.
<http://www.combatlaw.org/print.php?article_id=581&issue_id=23>

Long, Jessica, (2007), "WTO Kills Farmers: India Free Market Reforms Trigger Farmers' Suicides", Centre for Research on Globalization.
<<http://www.globalresearch.ca/index.php?context=va&aid=6522>>

Moni, Madaswamy, "Impact of economic reforms on Indian Agricultural Sector: Application of geomatics technology to reduce marginalisation and vulnerability of small farmers in India", National Informatics Centre, Ministry of Information Technology, New Delhi.
<<http://www.gisdevelopment.net/application/agriculture/production/agric0003pf.htm>>

Pehu, Eija and Ragasa, Catherine, (2007), "Agricultural Biotechnology Transgenics in Agriculture and their Implications for Developing Countries", Background Paper for the World Development Report 2008.

Qaim, Matin et al., "Adoption of Bt Cotton and Impact Variability: Insights from India", Review of Agricultural Economics, Vol.28, No.1.

Rai, Saritha, (2001), "India-U.S. Fight on Basmati Rice is Mostly Settled", The New York Times.
<<http://query.nytimes.com/gst/fullpage.html?res=9E07E4D81031F936A1575BC0A9679C8B63&sec=&spon=&pagewanted=2>>

Rao, M.B and Guru, Manjula, (2003), Understanding TRIPS: Managing Knowledge in Developing Countries, New Delhi, Response Books; Thousand Oaks CA, Sage Publications.

Ramanna, Anitha, (2005), "Bt Cotton and India's Policy on IPRs", Asian Biotechnology and Development Review, Special Issue on Biotechnology and Intellectual Property Rights, Vol. 7 No 2.

Roy, Devparna et al., (2007), "Naturalising Transgenics: Official Seeds, Loose Seeds and Risk in the Decision Matrix of Gujarati Cotton Farmers", Journal of Development Studies, Vol.43, No.1.

Sahai, Suman, (2002), "Bt Cotton: Confusion Prevails", Economic and Political Weekly, Vol. 37, No. 21.

Sai, Y. V. S. T. and David, G. Shourie, (2002), "Bt Cotton: Farmers' Reactions", Economic and Political Weekly, Vol. 37, No. 46.

Shah, Anup, (2002) "Food Patents – Stealing Indigenous Knowledge?" Genetically Engineered Food.
<<http://www.globalissues.org/EnvIssues/GEFood/FoodPatents.asp>>

Sharma, Devinder, (2007), "Displacing farmers: India Will Have 400 million Agricultural Refugees", Centre for Global Research on Globalization.

<<http://www.globalresearch.ca/index.php?context=va&aid=6127>>

Shiva, Vandana, (2000), Stolen Harvest, the Hijacking of the Global Food Supply, South End Press, Cambridge Mass.

Shiva, Vandana, (2001a), "The Basmati Battle And its Implications for Biopiracy and Trips", Centre for Research on Globalization.

<<http://www.globalresearch.ca/articles/SHI109A.html>>

Shiva, Vandana, (2001b), Protect or Plunder? Understanding Intellectual Property Rights, Cox & Wyman, Reading United Kingdom.

Shiva, Vandana, (2005), India Divided, Diversity and Democracy Under Attack, Seven Stories Press, New York.

Shiva, V, and Jafri, A, (2003), "Failure of GMOs in India", Research Foundation for Science, Technology and Ecology.

<<http://www.mindfully.org/GE/2003/India-GMO-Failure-Shiva31may03.htm>>

Stone, Glenn Davis, (2004), "Biotechnology and the Political Ecology of Information in India", Human Organization, Vol. 63, No. 2.

Suppan, Steve, "Amending WTO intellectual property rules to prevent bio-piracy and improve patent quality", IATP Trade and Global Governance Program.

"Survival Struggle", (2001), Economic and Political Weekly, Vol. 36, No. 40.

United Nations, (1997), "The TRIPS agreement and developing countries" United Nations Conference on Trade and Development, prepared by UNCTAD Secretariat, New York.

United Nations, International Farmer Suicide Crisis.

http://www.un.org/esa/sustdev/csd/csd16/PF/presentations/farmers_relief.pdf

Utkarsh, Ghate et al., (1999), "Intellectual Property Rights on Biological Resources: Benefiting from biodiversity and people's knowledge", Current Science.

From: Arron Mansika, BouldersBestOrganics [amansika@bouldersbestorganics.com]

Sent: Thursday, July 09, 2009 4:07 PM

To: Nielsen, Tina

Subject: sugarbeets

Follow Up Flag: Follow up

Flag Status: Flagged

Hi Ms. Nielsen,

I'm surprised this is even an issue. Should GMO crops be expanded in Boulder? No. This issue arises year after year, and it wasn't a good idea in the past and it's not now. Please accept this as my opinion on the matter that GMO crops are not welcomed on Boulder open space. Thank you.

Arron Mansika

4486 Greenbriar Blvd

Boulder CO 80305

Arron Mansika

www.BouldersBestOrganics.com

303-499-ORGANIC (6742)

email signature

From: Pamela Sherman [pamsher123@msn.com]
Sent: Monday, July 06, 2009 9:53 PM
To: Boulder County Board of Commissioners; Pamela Sherman
Subject: Sugar Beet Situation

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Commissioners,

I'm writing to urge you to keep GMO sugar beets off county land. The farmers signed this contract with a non-GMO clause and we need to hold to it. We cannot afford to pollute the soil, land, water, and impinge on our local native pollinators through the use of GMO products. We can also NOT afford to give Monsanto this carte blanche in our county. You are doubtless aware of how Monsanto bullies small farmers all over the country so Monsanto can control seeds nationally as well as globally. We must not let them do this in Boulder.

I am aware of the difficult straits the farmers are in. I urge you to work with the public, who has every sympathy for them, so that we can find a way to help them. I am aware that they are part of a Sugar Beet Cooperative, which imposes heavy fines if its members do not grow the requisite amount of this crop. However, so many of us feel so strongly about this-- there must be a way to help these farmers. Don't let them down by doing the easy but unthinkable, letting them plant GMO beets.

Please structure help into your decision. We must and can help them and together we can find a viable solution. This can be a model for the nation, in the way Monsanto is countered here. I assume you have been doing research to find out how other counties have helped their farmers who have been backed into similar situations by Monsanto. I also assume you have been getting all the help you need in this regard from the Center for Food Safety. If not, their website is: www.centerforfoodsafety.org

Thank you very much.

Yours Truly,

Pamela Sherman

June 21, 2009

BCPOS

Boulder County

Boulder, CO

To whom it may concern:

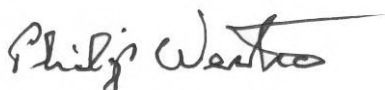
I am writing to express my opinion regarding the issue of allowing Roundup Ready sugarbeets to be planted on Boulder County Open Space properties. I have engaged in the discussions on this issue in two meetings in Boulder County to date. I am a professor of weed science at Colorado State University where I have worked for 24 years. I have more than 10 years of experience with Roundup Ready crop research including an 11 year study evaluating the possibility of weed shifts under continuous Roundup Ready crops such as corn, soybeans, and sugarbeets. This long term study has clearly demonstrated the utility and advantage of using a pre-emerge herbicide with another mode of action prior to using glyphosate in Roundup Ready crops. This very detailed long-term study has not shown the development of glyphosate resistant weeds under Colorado Front Range conditions, even when RR sugarbeets were included as a part of the crop rotation. These 11 years of experience form part of the basis for my opinion.

I believe that Boulder County Parks and Open Space should allow the farmers the opportunity to grow Roundup Ready sugarbeets on land that they rent from the county. The improved weed control, improved soil management potential (strip till) and improved economics all favor this production system. Furthermore, the Roundup Ready system of crop production has been thoroughly tested for its impact on water quality and the environment. There are real environmental and economic benefits to this production system. I would encourage the committee to not impose an arbitrary 50' buffer near waterways, and I would encourage the committee to not micro manage farmers decisions on which crops to plant in rotation with Roundup Ready sugar beets. It is useful and prudent to encourage farmers, where possible, to use pre-emerge herbicides and/or other modes of action to address the issue of resistant weeds.

It is my opinion that farmers are guardians of our local environment, and they are always engaged in ways to produce food and fiber while protecting the soil and local environment which allows them to farm. Farmers want to leave the land in a condition that will allow their children and grandchildren to farm if they so choose. Our local farmers should be viewed as important members of a society that wants to maintain and protect a viable agriculture in Boulder County.

I am involved in the 3rd year of a significant new research project on biotech drought tolerant corn for use in Colorado. Other important new crop traits under development include cold and heat tolerance, improved nitrogen use efficiency, and improved nutritional qualities of major crops. These technologies will be of value and importance to Boulder crop production in the future. These products will come on the heels of Roundup Ready sugarbeets, and it seems to me that if we deny current farmers the ability to use these technologies on land they rent from Boulder County, we stand a very real chance of driving them from the County to eastern Colorado where such technology will be eagerly embraced for the many advantages it will bring to American farmers. I believe that allowing the use of Roundup Ready sugarbeets in Boulder County will enhance agricultural, environmental, and economic sustainability in Boulder County.

Sincerely,

A handwritten signature in black ink that reads "Philip Westra". The signature is written in a cursive, flowing style with a long horizontal line extending from the end of the name.

Philip Westra, PhD, Professor of Weed Science, Colorado State University, Ft. Collins, CO 80523

From: Bill Rawsky [bill@alpenhiker.com]
Sent: Thursday, July 09, 2009 2:43 PM
To: Nielsen, Tina
Subject: GM Crops on Open Space

Follow Up Flag: Follow up
Flag Status: Flagged

Tina,

Here is an article (and related book) that should be read before allowing genetically-modified crops on County land. It's on the Union of Concerned Scientists web site. This work by respected scientists clearly makes the case against increased productivity from GM corn and other crops.

http://ucsusa.org/food_and_agriculture/science_and_impacts/science/failure-to-yield.html

Bill Rawsky
2890 Lafayette Drive
Boulder, CO 80305-7107
303.494.2890

From: Rose Mary Highman [gsnaps2000@comcast.net]
Sent: Tuesday, July 07, 2009 2:15 PM
To: Boulder County Board of Commissioners
Subject: GMOs on Boulder County Agricultural Open Space

Follow Up Flag: Follow up

Flag Status: Flagged

1056 Columbia Place

Boulder, CO 80303-3213

July 7, 2009

Boulder County Commissioners

Courthouse

Boulder, CO

Re: Genetically Modified Organism Crops (GMOs) on County Agricultural Lands

As our elected commissioners, you are the protectors of county residents, public lands, wildlife and native plants on these lands. This is a huge responsibility that covers the present *and into the future* beyond your lives and mine. Residents, including yourselves, don't know enough about these genetically modified crops. As stewards of our public lands, you must not allow such wide use of GMOs. The GMOs are relatively new so why rush into their use when the whole story has not yet been told?

Monsanto has had reports of deleterious effects on GMOs on monarch butterflies. GMOs are also implicated in crop cross-contamination which again was not a good result. Monsanto's Roundup itself is toxic as a general use herbicide. Now there are genetically modified crops resistant to Roundup being considered for open space agricultural use. GMOs have not been studied enough to know what long-term use of GMOs has on humans, wildlife, and native vegetation.

Thank you for your consideration and rejection of GMOs,

Rose Mary Highman

From: Ruth Barreto [ruthbarreto@hotmail.com]

Sent: Monday, June 29, 2009 9:25 AM

To: Boulder County Board of Commissioners; Card, Adrian; ctplant@gmail.com

Subject: Sugarbeets

Follow Up Flag: Follow up

Flag Status: Flagged

Dear Boulder County Commissioners, and members of the Parks and Open Space Advisory Council and the Food and Agriculture Policy Council:

As a resident of Boulder County I am taking this opportunity to provide feedback regarding deliberations around the request to grow genetically-modified Roundup-Ready sugarbeets on County property.

This proposal is clearly at odds with the County's longstanding policies of promoting sustainable agricultural practices, incentivizing organic production, and promoting a robust environmental ethic. These policies strongly align with the will and values of County residents. I am frankly amazed that this request is even being considered, given the County's policy of not allowing GMO to be grown on Boulder County Open Space (with the exception of corn). The litany of problems and controversies associated with the use of GMO crops and roundup are well-established and don't need to be restated here. None of that has changed, or magically gone away, nor have the well-founded concerns of Boulder County's residents about these technologies. Moreover, the proponents have provided no compelling reason to break with established County policy. Expediency and the economic self-interest of 6 growers is no basis for such a radical departure from County policy.

I have reviewed the white paper prepared by BCPOS staff and I find their recommendations irresponsible. Their endorsement of this proposal appears to hinge on concerns about revenue generation and an erroneous belief that their job involves "looking out for the financial welfare of its [BCPOS] tenants". Sorry, this is simply not true. Their charge is actually this:

"Our mission is to conserve natural, cultural, and agricultural resources and provide public uses that reflect sound resource management and community values."

Endorsing approval of this request is unequivocally at odds with well-established community values and sound resource management, and nothing in the staff's white paper suggests otherwise. Economic viability of BCPOS agricultural lands is obviously important. However, on behalf of the residents of Boulder County I want to challenge the Commissioners, the Parks and Open Space Advisory Council, and the Food and Agriculture Policy Council to find better alternatives.

The people of Boulder County look to you to manage our public lands in ways that support our values and vision. This will undoubtedly require you to be creative and bold in devising innovative policies and incentives that support the kind of agriculture we want to see in the County. I believe you are all well

aware that expanding the use of GMOs and herbicides on BCPOS property is incompatible with the vision we have for our County. The course set by the people of Boulder County is clear. Please keep us moving in that direction.

Thank you for your attention.

Sincerely,

Ruth Barreto
Lafayette, CO

Lauren found her dream laptop. [Find the PC that's right for you.](#)

From: Karen Sheren [mtnkaren@gmail.com]
Sent: Monday, July 13, 2009 3:38 PM
To: Nielsen, Tina
Subject: GMO's

T. Nielsen,

I am writing to encourage Boulder County to respect the wishes of the citizens who pay for public lands by REFUSING to allow the planting of ANY Genetically Modified seeds, plants, organisms, etc..It would make sense to have a law in Boulder county to make illegal the planting of GMO's ANYWHERE in the county, whether on public OR private land since GMO's pollen and seeds spread rendering traditional or organic crops no longer so. It is unfair that organic crops do not interfere or alter GMO crops, but GMO crops DO interfere with traditional farming in a negative way. This removes a freedom that is so important to America...land of the FREE including the freedom to grow ORGANIC foods that will STAY organic. If GMO companies could install some sort of giant greenhouse that prohibits the spread of their plants DNA, then at that time and no sooner the county could re-consider.

Boulder and the surrounding areas are VERY health conscious and it is obvious that GMO crops do NOT reflect the wishes of the citizens in this particular area of our country. It is YOUR job as OUR representative to carry out the wishes of the CITIZENS, NOT super multinational corporations attempting to destroy our country and everything GOOD upon it. Nature knows best and our planet is already compromised without adding new technology whose long term effects are unknown and are already well suspected of causing multiple problems. It is NOT NATURAL for THREE ears of corn to grow in the SAME place on the stalk any more than it is normal for a child to be born with three arms growing out of ONE shoulder socket. I have seen pictures of this phenomenon on GMO corn stalks.

Please, vote AGAINST ANY GMO crops in Boulder County, especially those grown on PUBLIC lands.

Thank you,
Karen
MtnKaren@gmail.com

From: Stephen Sherman [spsherm@msn.com]
Sent: Monday, July 06, 2009 12:31 PM
To: Boulder County Board of Commissioners
Subject: GMO Sugar beets on openspace

Follow Up Flag: Follow up
Flag Status: Flagged

Hello.

I am writing to add my voice to the many others urging you to not amend the contract and allow GMO beets on public land.

I am sure you are aware of the issues, so I won't repeat them here.

However, I hope you have considered a different alternative. Rather than see this as the farmers who are renting the land needing to plant, and the only decision being let them or not. I would strongly suggest the county offer to release them from their contract and let them go elsewhere. This give the farmers options for dealing with GMO crops elsewhere as they see fit, and it preserves a strong county stand against GMO crops on public land. Something that is essential for maintaining food/plant diversity in our environment.

This issue is very important to me, and I will remember it come the next election cycle.

Thank you for listening.

Frye, Renata

From: Frye, Renata
Sent: Thursday, May 28, 2009 12:34 PM
To: Haverfield, Carrie; Jannatpour, Vivienne; POSAC - Christian Meyer; POSAC - David Batts; POSAC - Eric Hozempa; POSAC - Janice Moore; POSAC - Jason Vogel; POSAC - Lisa Dilling; POSAC - Mary McQuiston; POSAC - Paul Jurasin; POSAC - Sue Cass; Stewart, Ron; Audrey Sheridan; Cindy Torres; Dan Matsch; Elizabeth Marr; Erik Johnson; James England; Leffler, Phill; Mark Menagh; Matt Pierce; Michael Brownlee; Michael Keown; Ramona Clark; Richard Miller; Sandy Cruz; Shanan Olson; Wendy Peters Moschetti
Cc: Card, Adrian; Leffler, Phill; Alexander, Robert; Stromquist, Luke
Subject: FW: 5/19 The American Academy Of Environmental Medicine: Immediate Moratorium On Genetically Modified Foods
Attachments: revelation.jpg

From: Haverfield, Carrie
Sent: Thursday, May 28, 2009 11:23 AM
To: Frye, Renata
Subject: FW: 5/19 The American Academy Of Environmental Medicine: Immediate Moratorium On Genetically Modified Foods

From: Evan Ravitz [mailto:Evan@vote.org]
Sent: Wednesday, May 27, 2009 8:37 PM
To: Boulder County Board of Commissioners
Subject: 5/19 The American Academy Of Environmental Medicine: Immediate Moratorium On Genetically Modified Foods

Dear Commissioners:

Just last week the American Academy of Environmental Medicine urged an IMMEDIATE moratorium on GM foods. Why would you let our land be used to grow what's looking like poison?

<http://www.aemonline.org/pressrelease.html>

Evan Ravitz
1130 11th St. #3
Boulder CO 80302
(303)440-6838

--

Join me on [Facebook!](#)
Purty pix and strange stories: [Back to the Garden blog](#)
Vote at [Vote.org](#) to take the "mock" out of democracy!
Evan Ravitz, founder. 303-440-6838

Frye, Renata

From: Frye, Renata
Sent: Monday, June 01, 2009 3:24 PM
To: Sandy Cruz; Michael Brownlee; Wendy Peters Moschetti; POSAC - Paul Jurasin; Haverfield, Carrie; Phill Leffler; POSAC - Jason Vogel; Erik Johnson; POSAC - Mary McQuiston; POSAC - Sue Cass; Mark Menagh; James England; Cindy Torres; Stewart, Ron; POSAC - David Batts; Ramona Clark; Audrey Sheridan; POSAC - Christian Meyer; Jannatpour, Vivienne; Elizabeth Marr; Shanan Olson; Dan Matsch; POSAC - Eric Hozempa; POSAC - Lisa Dilling; POSAC - Janice Moore; Michael Keown; Matt Pierce; Richard Miller
Cc: Stromquist, Luke; Alexander, Robert; Nielsen, Tina; Card, Adrian; Leffler, Phill
Subject: FW: beets

From: Haverfield, Carrie
Sent: Fri 5/29/2009 1:38 PM
To: Frye, Renata
Subject: FW: beets

-----Original Message-----
From: Cecilia Ruffing [<mailto:cruffing@ecentral.com>]
Sent: Friday, May 29, 2009 10:19 AM
To: Boulder County Board of Commissioners
Subject: beets

Dear Will, Ben, and Cindy,

I voted for all of you and so far am glad I did.

The issue of genetically altered seed beets is of great concern to me. I am appalled at the idea of growing round-up ready beets on land supported by my taxes here in Boulder County.

Time and again, we, as humans, rush forward with new technology without enough regard to long term, future consequences. These genetically altered seeds make the use of harmful herbicides and pesticides a given, and the seeds allow for the complication of genes that might cross pollinate (sometimes including a terminator gene....consider the possible effect of terminating the germination of other seeds) The full pesticide/herbicide use, and the potential cross-pollination problems, make this a backward technology with the actual and potential serious, harmful consequences. I can also tell you for a fact, that 50 feet won't keep herbicides and pesticides from affecting a nearby ditch or creek. Just come to our neighborhood and see how lawn herbicides get shared.

I will try to get to the June hearings on this issue. The Daily Camera information is not encouraging....farmers saying they will be fined by the Beet Cooperative if they don't meet a beet production quota (or is that, at root, a seed purchase quota, I wonder); and what happens if they're not in the Cooperative? Sounds awful powerful.

If anything, we should be encouraging organic farming techniques in our County, even formulating incentives for organic or all natural growing and processing.

I would appreciate your letting me know where you stand on this issue.

Thanks,

Ceal Ruffing

Frye, Renata

From: Frye, Renata
Sent: Monday, June 01, 2009 3:26 PM
To: Sandy Cruz; Michael Brownlee; Wendy Peters Moschetti; POSAC - Paul Jurasin; Haverfield, Carrie; Phill Leffler; POSAC - Jason Vogel; Erik Johnson; POSAC - Mary McQuiston; POSAC - Sue Cass; Mark Menagh; James England; Cindy Torres; Stewart, Ron; POSAC - David Batts; Ramona Clark; Audrey Sheridan; POSAC - Christian Meyer; Jannatpour, Vivienne; Elizabeth Marr; Shanan Olson; Dan Matsch; POSAC - Eric Hozempa; POSAC - Lisa Dilling; POSAC - Janice Moore; Michael Keown; Matt Pierce; Richard Miller
Cc: Stromquist, Luke; Nielsen, Tina; Alexander, Robert; Card, Adrian; Leffler, Phill
Subject: FW: Round-up

From: Haverfield, Carrie
Sent: Fri 5/29/2009 3:51 PM
To: Frye, Renata
Subject: FW: Round-up

-----Original Message-----

From: Douglas Rademacher [<mailto:DRademacher@co.weld.co.us>]
Sent: Friday, May 29, 2009 2:02 PM
To: Stewart, Ron
Cc: Boulder County Board of Commissioners; paul@schlagelfarms.com
Subject: Round-up

May 29 2009

Mr. Stewart
Board of County Commissioners

Ladies and Gentlemen:

After talking with several sugar beet producers and reading articles in the local papers I was compelled to respond... I am writing to support the use of Round-up ready sugar beets in Boulder County. Round-up ready crops have been grown in this country for decades, corn and soybeans to name a couple. It has been accepted by the American public and is presently in our food chain, as is Round-up ready sugar. As you are aware, production agriculture in Boulder County has been declining for many years and now have only a hand full of sugar beet producers left, I have the honor to know them all.

My family has been raising sugar beets since they were introduced in Colorado and still continue today. I was the President of the Saint Vrain Valley Sugar Beet Growers, which these growers are a part of, for the past 12 years stepping down last December. My brother took my position. I still apply all pesticides today and have been for the past thirty years for Rademacher Farms LLC.

A couple things need to be considered. I can do with one chemical (Round-up) now whereas it would require me to apply up to four and sometimes as many as six different chemicals (Progress, Up-beet, Stinger, Betamix, and a grass herbicide) to achieve the same results. The cost of Round-up per acre is around 75% less than the other chemicals. I can apply Round-up once and sometimes twice where the other chemicals require at least three applications and up to five applications when necessary. The profit margin in any crop is very small even with all of the right growing conditions and commodity prices and other input costs. Round-up ready has, in my opinion, saved the industry. Another

important fact needs to be considered. Conventional beets require hand labor 85% of the time when the chemicals have not given the results needed to produce a crop. This labor in the past few years have been extremely hard to find. New regulations and penalties make labor hard if not impossible to acquire.

With this information I would implore you to allow the producers in Boulder County to be competitive and remain in agriculture by approving the use of Round-up ready sugar beets.

If you have any questions please feel free to contact me. 303-588-1236, or E-mail at drademacher@co.weld.co.us...

Best Regards
Weld County Commissioner
Douglas Rademacher

Frye, Renata

From: Frye, Renata
Sent: Monday, June 01, 2009 3:18 PM
To: Sandy Cruz; Michael Brownlee; Wendy Peters Moschetti; POSAC - Paul Jurasin; Haverfield, Carrie; Phill Leffler; POSAC - Jason Vogel; Erik Johnson; POSAC - Mary McQuiston; POSAC - Sue Cass; Mark Menagh; James England; Cindy Torres; Stewart, Ron; POSAC - David Batts; Ramona Clark; Audrey Sheridan; POSAC - Christian Meyer; Jannatpour, Vivienne; Elizabeth Marr; Shanan Olson; Dan Matsch; POSAC - Eric Hozempa; POSAC - Lisa Dilling; POSAC - Janice Moore; Michael Keown; Matt Pierce; Richard Miller
Cc: Stromquist, Luke; Nielsen, Tina; Alexander, Robert; Card, Adrian; Leffler, Phill
Subject: FW: genetically modified crops

From: Haverfield, Carrie
Sent: Thu 5/28/2009 3:04 PM
To: Frye, Renata
Subject: FW: genetically modified crops

From: Leah Conroe-Luzius [mailto:conroeluzius@yahoo.com]
Sent: Thursday, May 28, 2009 9:33 AM
To: Boulder County Board of Commissioners
Subject: genetically modified crops

Dear Commisioners,

Do not allow farmer to grow genetically modified crops on Boulder County Open Space land. This would be a step backward in creating a sustainable and healthy environment for the citizens of Boulder County. Open space land should be only farmed organically. The use of massive amount of pesticides should also not be allowed.

The citizens of Boulder County did not elect you to be their representatives in order to support agri-business interest. Boulder needs to be a model and a leader in the environmental movement, not a contributor to the degradation of our planet. Do not OK the proposed growing of a genetically modified sugar beet crop. It is not what the voters want.

Leah Conroe-Luzius, M.S.

Frye, Renata

From: Haverfield, Carrie
Sent: Wednesday, May 27, 2009 10:38 AM
To: Frye, Renata; Jannatpour, Vivienne
Subject: FW: genetically engineered crops on open space

-----Original Message-----

From: Martin Walter [mailto:Martin.Walter@colorado.edu]
Sent: Tuesday, May 26, 2009 4:28 PM
To: Boulder County Board of Commissioners
Subject: genetically engineered crops on open space

Dear County Commissioners:

I understand that you are taking public input before making a decision (Thursday) on allowing additional open space land to be farmed with genetically engineered organisms (I believe herbicide ``proof'' sugar beets are being proposed).

I think this is a bad idea and there are many reasons:

1. It puts another layer of profit seekers (holders of the GMO patents) between consumers and their food. This is not optimal in these difficult financial times. Proponents may say that some labor costs are avoided. This can be viewed as taking jobs out of the agricultural sector so that --see number 2.
2. The poison burden to the environment will be increased. The whole point of the genetic modification proposed is to allow additional poisons (herbicides to kill weeds, and collateral damage to be determined) to replace other management techniques.
3. Given the ferocity with which GMO opponents have been attacked in court by certain GMO proponents it is a wonder there is any opposition left.
4. Why Boulder County open space? Are there not better uses for our open space than demonstration projects for GMOs? Is this something Boulder County wants to give its imprimatur to? Some believe that that mindset that gave us financial collapse will eventually give us agricultural collapse as well.
5. I have a shelf full of books written by an assortment of experts at various levels on the negative aspects of GMO agriculture, my favorite is ``Seeds of Deception: Exposing Industry Lies about the Safety of the Genetically Engineered Foods You're Eating'' by Jeffrey M. Smith (2003) The evidence Smith provides has only gained credibility in the past 6 years.

Best regards,

Marty Walter, member MartyWalterMath.com LLC

Frye, Renata

From: Frye, Renata
Sent: Monday, June 01, 2009 3:25 PM
To: Sandy Cruz; Michael Brownlee; Wendy Peters Moschetti; POSAC - Paul Jurasin; Haverfield, Carrie; Phill Leffler; POSAC - Jason Vogel; Erik Johnson; POSAC - Mary McQuiston; POSAC - Sue Cass; Mark Menagh; James England; Cindy Torres; Stewart, Ron; POSAC - David Batts; Ramona Clark; Audrey Sheridan; POSAC - Christian Meyer; Jannatpour, Vivienne; Elizabeth Marr; Shanana Olson; Dan Matsch; POSAC - Eric Hozempa; POSAC - Lisa Dilling; POSAC - Janice Moore; Michael Keown; Matt Pierce; Richard Miller
Cc: Stromquist, Luke; Nielsen, Tina; Alexander, Robert; Card, Adrian; Leffler, Phill
Subject: FW: Genetically modified crops on open space land

From: Haverfield, Carrie
Sent: Fri 5/29/2009 1:38 PM
To: Frye, Renata
Subject: FW: Genetically modified crops on open space land

From: Michael Luzius [mailto:michaelluzius@yahoo.com]
Sent: Friday, May 29, 2009 11:58 AM
To: Boulder County Board of Commissioners
Subject: Genetically modified crops on open space land

Dear Sirs and Madame,

I am very concerned about the possibility that genetically modified crops may be grown on Boulder County's Open Space land. I am opposed to the genetic modification of plants and animals on moral and ethical grounds. I strongly urge you to reconsider the decision to allow the use of public lands for such questionable activities.

If the issue driving this decision is the need for additional revenues for the county, there are other possible uses. I would strongly support the use of Boulder County's Open Space for sustainable agriculture. There are many farmers that use sustainable methods that may be interested in leasing that land to grow vegetables, or grains or graze their animals. Please reconsider.

Sincerely,
Michael Luzius
105 S. 31st St.
Boulder, CO 80305

Frye, Renata

From: Frye, Renata
Sent: Wednesday, May 27, 2009 1:46 PM
To: Haverfield, Carrie; Jannatpour, Vivienne; POSAC - Christian Meyer; POSAC - David Batts; POSAC - Eric Hozempa; POSAC - Janice Moore; POSAC - Jason Vogel; POSAC - Lisa Dilling; POSAC - Mary McQuiston; POSAC - Paul Jurasin; POSAC - Sue Cass; Stewart, Ron; Audrey Sheridan; Cindy Torres; Dan Matsch; Elizabeth Marr; Erik Johnson; James England; Leffler, Phill; Mark Menagh; Matt Pierce; Michael Brownlee; Michael Keown; Ramona Clark; Richard Miller; Sandy Cruz; Shanan Olson; Wendy Peters Moschetti
Cc: Card, Adrian; Leffler, Phill; Alexander, Robert; Stromquist, Luke
Subject: FW: Comments re: Roundup Ready Beets on County Open Space
Attachments: Glacier Bkgrd.jpg
Importance: High

From: rmpjc [mailto:rmpjc@earthlink.net]
Sent: Wednesday, May 27, 2009 12:22 PM
To: Frye, Renata
Subject: Comments re: Roundup Ready Beets on County Open Space
Importance: High

The Rocky Mountain Peace and Justice Center respectfully requests that Boulder County Parks and Open Space deny the request to grow "Roundup-Ready Beets" on County Open Space Land. We believe there are far too many unknown risks to allow such crops to grow. As noted below, the American Academy of Environmental Medicine has called for a moratorium on genetically modified foods. We hope that Parks and oPen Space will see the wisdom in adhering to such a moratorium in Boulder County.

Medical Group Calls for Ban on Genetically Modified Foods (from www.Democracynow.org, 5/26/09).

The American Academy of Environmental Medicine has called for a moratorium on genetically modified foods. The medical organization warned that genetically modified foods pose a serious health risk in the areas of toxicology, allergy and immune function, reproductive health, and metabolic, physiologic and genetic health. Dr. Amy Dean said, "Multiple animal studies have shown that GM foods cause damage to various organ systems in the body. With this mounting evidence, it is imperative to have a moratorium on GM foods for the safety of our patients' and the public's health."

Respectfully,

Betty Ball

Co-Administrator, RMPJC

Frye, Renata

From: Frye, Renata
Sent: Wednesday, May 27, 2009 1:47 PM
To: Haverfield, Carrie; Jannatpour, Vivienne; POSAC - Christian Meyer; POSAC - David Batts; POSAC - Eric Hozempa; POSAC - Janice Moore; POSAC - Jason Vogel; POSAC - Lisa Dilling; POSAC - Mary McQuiston; POSAC - Paul Jurasin; POSAC - Sue Cass; Stewart, Ron; Audrey Sheridan; Cindy Torres; Dan Matsch; Elizabeth Marr; Erik Johnson; James England; Leffler, Phill; Mark Menagh; Matt Pierce; Michael Brownlee; Michael Keown; Ramona Clark; Richard Miller; Sandy Cruz; Shanan Olson; Wendy Peters Moschetti
Cc: Card, Adrian; Leffler, Phill; Stromquist, Luke; Alexander, Robert
Subject: FW: Further information from American Academy of Environmental Medicine about Genetically Engineered Foods

From: rmpjc [mailto:rmpjc@earthlink.net]
Sent: Wednesday, May 27, 2009 12:37 PM
To: Frye, Renata
Subject: Further information from American Academy of Environmental Medicine about Genetically Engineered Foods

Please consider this email an attachment to our comments opposing the growing of "Roundup Ready Beets" on County open Space.

Respectfully, Betty Ball, Co-Administrator, RMPJC

Press Advisory May 19, 2009

Contact Information

Dr. Amy L. Dean, D.O. Public Relations Chair Member, Board of Directors American Academy of Environmental Medicine 734-213-4901 environmentalmed@yahoo.com

The American Academy Of Environmental Medicine Calls For Immediate Moratorium On Genetically Modified Foods

Wichita, KS - The American Academy of Environmental Medicine (AAEM) today released its position paper on Genetically Modified foods stating that "GM foods pose a serious health risk" and calling for a moratorium on GM foods. Citing several animal studies, the AAEM concludes "there is more than a casual association between GM foods and adverse health effects" and that "GM foods pose a serious health risk in the areas of toxicology, allergy and immune function, reproductive health, and metabolic, physiologic and genetic health." The AAEM calls for:

- A moratorium on GM food, implementation of immediate long term safety testing and labeling of GM food.
- Physicians to educate their patients, the medical community and the public to avoid GM foods.
- Physicians to consider the role of GM foods in their patients' disease processes.
- More independent long term scientific studies to begin gathering data to investigate the role of GM foods on human health.

"Multiple animal studies have shown that GM foods cause damage to various organ systems in the body. With this mounting evidence, it is imperative to have a moratorium on GM foods for the safety of our patients' and the public's health," said Dr. Amy Dean, PR chair and Board Member of AAEM. "Physicians are probably seeing the effects in their patients, but need to know how to ask the right questions," said Dr. Jennifer Armstrong, President of AAEM. "The most common foods in North America which are consumed that are GMO are corn, soy, canola, and cottonseed oil." The AAEM's position paper on Genetically Modified foods can be found at <http://aaemonline.org/gmopost.html>. AAEM is an international association of physicians and other professionals dedicated to addressing the clinical aspects of environmental health. More information is available at www.aaemonline.org.

-more- About AAEM The American Academy of Environmental Medicine was founded in 1965, and is an international association of physicians and other professionals interested in the clinical aspects of humans and their environment. The Academy is interested in expanding the knowledge of interactions between human individuals and their environment, as these may be demonstrated to be reflected in their total health. The AAEM provides research and education in the recognition, treatment and prevention of illnesses induced by exposures to biological and chemical agents encountered in air, food and water. ###

Frye, Renata

From: Frye, Renata
Sent: Wednesday, May 27, 2009 1:44 PM
To: Haverfield, Carrie; Jannatpour, Vivienne; POSAC - Christian Meyer; POSAC - David Batts; POSAC - Eric Hozempa; POSAC - Janice Moore; POSAC - Jason Vogel; POSAC - Lisa Dilling; POSAC - Mary McQuiston; POSAC - Paul Jurasin; POSAC - Sue Cass; Stewart, Ron; Audrey Sheridan; Cindy Torres; Dan Matsch; Elizabeth Marr; Erik Johnson; James England; Leffler, Phill; Mark Menagh; Matt Pierce; Michael Brownlee; Michael Keown; Ramona Clark; Richard Miller; Sandy Cruz; Shanan Olson; Wendy Peters Moschetti
Cc: Card, Adrian; Alexander, Robert; Leffler, Phill; Stromquist, Luke
Subject: FW: Genetically altered beets

From: jahhoff@aol.com [mailto:jahhoff@aol.com]
Sent: Wednesday, May 27, 2009 11:10 AM
To: Frye, Renata
Cc: council@bouldercolorado.gov
Subject: Genetically altered beets

How can Boulder, Colorado even consider growing GM crops on our open space land? Besides helping drive a corporate greed machine designed to control our food supply, there is still uncertainty as to what these crops will do to their surrounding habitat and neighboring crops, nor are we certain of the long term effects with respect to the health of all that may consume these crops. There are many heirloom crops available these days that would allow for the county to harvest seed from mature plants for the next years crop, eliminating the need to purchase yearly seed requirements from large corporations. Bypassing the seed harvest, pure, genetically unaltered seed can be procured yearly at a local level, supporting our local economy at the same time. A well planned organic process for growing crops can be as effective as a GM crop and also as effective as the chemicals that the GM crops are eliminating. There is no need for chemicals and there is no need for the GM crops that are supposed to help reduce chemical use. PLEASE DO NOT GROW GM CROPS ON OUR OPEN SPACE LANDS!!!! I Thank you in advance for listening to what we, the people, have to say and implementing a plan that is in keeping with the values that Boulder has become known for.

Organically yours,

Scott Hoffenberg
709 University Ave.
30 year resident of Boulder, CO

Wanna slim down for summer? Go to [America Takes it Off](#) to learn how.

Frye, Renata

From: Nielsen, Tina
Sent: Saturday, May 30, 2009 9:34 AM
To: Frye, Renata; Jannatpour, Vivienne
Subject: FW: letter regarding GMO sugar beets on Boulder County open space

For website

From: Steven Hoffman [mailto:shoffman@organic-center.org]
Sent: Thu 5/28/2009 4:59 PM
To: Nielsen, Tina
Cc: Mark Retzloff; Seelyn DeYarus; Chuck Benbrook; Michelle Goolsby; Alan Greene
Subject: letter regarding GMO sugar beets on Boulder County open space

May 28, 2009

Tina Nielson
Special Projects Manager
County of Boulder
Boulder, CO

Dear Tina,

Thank you for speaking earlier with our office manager Jamie Kelly. Per your request, on behalf of The Organic Center, a national, 501c3 nonprofit research and education institute based in Boulder, I wish to submit our deep concerns and opposition to the proposal to allow GMO crops, including genetically engineered sugar beets, to be produced on open space Boulder County land, for a number of science-based reasons listed below.

The Organic Center's mission is to advance scientific research behind the health and environmental benefits of organic food and farming; to share findings related to the health and environmental risks of GMOs and synthetic, toxic pesticide use in agriculture; and to communicate these findings to consumers, media, business leaders and policy makers. As such, we work with leading universities, nutritionists and researchers all over the world. For more information please visit www.organic-center.org.

In relation to GMOs, The Organic Center has direct scientific evidence demonstrating that GMO sugar beets are actually more prone to plant diseases, and that GMO pollen from genetically engineered sugar beets can readily drift into other related crops including edible beets and chard. Additionally, Mexican researchers have shown that GMO corn has contaminated native maize varieties, corrupting these traditional seed stocks. Given the strong prevailing winds that occur regularly in Boulder County, pollen can drift for miles and miles. Therefore, a buffer zone would have to be significantly larger than that which you are recommending to protect other crops from GMO contamination. Lastly, there is also ample scientific evidence that the overuse of the herbicide Roundup is leading to the evolution of "super weeds" resistant to herbicides.

I would be happy to provide full scientific references to support all of these research findings.

Also, on May 8, 2009, the venerable American Academy of Environmental Medicine (AAEM), an international physicians' organization established in 1965, issued a position paper on genetically modified foods and put forth the following recommendations (for the full paper, please visit <http://aaemonline.org/gmopost.html>):

“...Because GM foods pose a serious health risk in the areas of toxicology, allergy and immune function, reproductive health, and metabolic, physiologic and genetic health and are without benefit, the AAEM believes that it is imperative to adopt the precautionary principle, which is one of the main regulatory tools of the European Union environmental and health policy and serves as a foundation for several international agreements...

“With the precautionary principle in mind, because GM foods have not been properly tested for human consumption, and because there is ample evidence of probable harm, the AAEM asks:

- Physicians to educate their patients, the medical community, and the public to avoid GM foods when possible and provide educational materials concerning GM foods and health risks.*
- Physicians to consider the possible role of GM foods in the disease processes of the patients they treat and to document any changes in patient health when changing from GM food to non-GM food.*
- Our members, the medical community, and the independent scientific community to gather case studies potentially related to GM food consumption and health effects, begin epidemiological research to investigate the role of GM foods on human health, and conduct safe methods of determining the effect of GM foods on human health.*
- For a moratorium on GM food, implementation of immediate long term independent safety testing, and labeling of GM foods, which is necessary for the health and safety of consumers.”*

In addition to the moratorium on GMOs and mandatory labeling recommended by AAEM, the position paper also states that “there is more than a casual association between GM foods and adverse health effects,” and goes on to say:

“Specificity of the association of GM foods and specific disease processes is also supported. Multiple animal studies show significant immune dysregulation, including upregulation of cytokines associated with asthma, allergy, and inflammation. Animal studies also show altered structure and function of the liver, including altered lipid and carbohydrate metabolism as well as cellular changes that could lead to accelerated aging and possibly lead to the accumulation of reactive oxygen species (ROS). Changes in the kidney, pancreas and spleen have also been documented. A recent 2008 study links GM corn with infertility, showing a significant decrease in offspring over time and significantly lower litter weight in mice fed GM corn. This study also found that over 400 genes were found to be expressed differently in the mice fed GM corn. These are genes known to control protein synthesis and modification, cell signaling, cholesterol synthesis, and insulin regulation. Studies also show intestinal damage in animals fed GM foods, including proliferative cell growth and disruption of the intestinal immune system...

“Also, because of the mounting data, it is biologically plausible for genetically modified foods to cause adverse health effects in humans.”

Boulder is the epicenter of the organic food industry and contributes more than \$3 billion annually in organic sales to the local economy, and as such, should consider preserving its open space lands for organic farming that uses no synthetic, toxic chemicals or GMOs, improves the soil (which ties up more carbon into the soil, rather than contributing to greenhouse gases), and is a sustainable method of agriculture. Proprietary GMO seed stock and reliance on the use of Roundup herbicide is not ultimately sustainable, and is in fact, harmful to human, animal and environmental health, and only benefits one—or only a few—companies at the expense of our seed stock, sustainable agriculture and the environment.

Therefore, we reiterate our opposition to the proposal to grow GMO sugar beets or any other GMO crops on public lands.

Sincerely,

Steven Hoffman

Steven Hoffman

Managing Director

The Organic Center

P.O. Box 20513, Boulder, CO 80308

tel 303.499.1840, fax 303.957.2373

shoffman@organic-center.org

www.organic-center.org

Frye, Renata

From: Frye, Renata
Sent: Monday, June 01, 2009 3:21 PM
To: Sandy Cruz; Michael Brownlee; Wendy Peters Moschetti; POSAC - Paul Jurasin; Haverfield, Carrie; Phill Leffler; POSAC - Jason Vogel; Erik Johnson; POSAC - Mary McQuiston; POSAC - Sue Cass; Mark Menagh; James England; Cindy Torres; Stewart, Ron; POSAC - David Batts; Ramona Clark; Audrey Sheridan; POSAC - Christian Meyer; Jannatpour, Vivienne; Elizabeth Marr; Shanan Olson; Dan Matsch; POSAC - Eric Hozempa; POSAC - Lisa Dilling; POSAC - Janice Moore; Michael Keown; Matt Pierce; Richard Miller
Cc: Stromquist, Luke; Alexander, Robert; Nielsen, Tina; Card, Adrian; Leffler, Phill
Subject: FW: NO to Round-up Ready Sugarbeets

From: Tom Wells [mailto:helpwithhomes@comcast.net]
Sent: Thu 5/28/2009 3:35 PM
To: Frye, Renata
Subject: NO to Round-up Ready Sugarbeets

I am strongly opposed to using our county open space to experiment with genetic science by growing Round-Up Ready Sugar Beets. The price we may all pay is far too high. We need to continue to discover and promote agricultural methods that work with nature in an organically sustainable fashion. We need a sustained conversation of those interested that carefully considers the downside of this genetically altered and pro-Round-Up form of agriculture. We need living soil in Boulder County and cannot tolerate threats to the heirloom seed/plant base that nature has taken millions of years to assure our food supply. My wife and I will fight this for as long as we have breath to speak.

Sincerely,

Tom Wells

303-516-0599

mailto: wellstom@comcast.net

From: DRAKE, LISA M [AG/1085] [lisa.m.drake@monsanto.com]
Sent: Tuesday, June 09, 2009 6:14 AM
To: Leffler, Phill; Nielsen, Tina
Subject: FW: Resistance talking points

Phil and Tina: Please note that the committee packets at their hearing May 28 included an MSDS on Promax, which is not only not the correct MSDS for the product that would be applied on ag lands, but isn't the right document to indicate environmental fate. MSDS documents indicate mandated legal language on exposure limits and potential effects – similar to what you would see on the back of a bottle of aspirin or cold medicine. Please see below for further information.

Best –

Lisa Drake

State and Local Government Affairs Lead

Monsanto Company

P.O. Box 6544

Englewood CO 80155-6544

303-768-7331

303-514-5533 (cell)

303-799-9441 (fax)

lisa.m.drake@monsanto.com

From: FARMER, DONNA R [AG/1000]
Sent: Wednesday, May 27, 2009 4:14 PM
To: DRAKE, LISA M [AG/1085]; SOTERES, JOHN K [AG/1000]; FENDERSON, JOHN M [AG/1000]; TICHOTA, JEFFREY M [AG/1000]
Subject: RE: Resistance talking points

<<Soil Impacts and toxicity.docx>>

This e-mail message may contain privileged and/or confidential information, and is intended to be received only by persons entitled to receive such information. If you have received this e-mail in error, please notify the sender immediately. Please delete it and all attachments from any servers, hard

drives or any other media. Other use of this e-mail by you is strictly prohibited.

All e-mails and attachments sent and received are subject to monitoring, reading and archival by Monsanto, including its subsidiaries. The recipient of this e-mail is solely responsible for checking for the presence of "Viruses" or other "Malware". Monsanto, along with its subsidiaries, accepts no liability for any damage caused by any such code transmitted by or accompanying this e-mail or any attachment.

Attachment to email correspondence from Lisa Drake, Monsanto
RE: Resistance talking points
6/9/2009

Soil Impacts and toxicity. Questions have been raised about Roundup Ready technology's effect on soil chemistry, including slowing down of soil mineralization, and toxicity associated with the surfactant as compared to the active ingredient glyphosate (Attachment W, Monsanto Safety Data Sheet).

Points to consider:

BCPOS agrees that soil fertility issues raise sustainability questions. Staff is in the process of contacting experts and will report back.

Attachment:

W. Monsanto Company Safety Data Sheet for PROMAX[™] Herbicide

- Attachment W is referenced as a Monsanto Company Safety Data Sheet. There is no product called PROMAX. The product is probably Roundup PROMAX [™] Herbicide. This product is not used in agricultural applications but is used in Monsanto's Industrial, Turf and Ornamental Business.

<http://www.monsanto.com/ito/layout/default.asp>

<http://www.rounduppromax.com/files/Safety.pdf>

- Material safety data sheets contain written or printed material concerning a hazardous chemical as prescribed by law. They contain basic information needed to insure the safety and health of the user at all stages of its manufacture, storage, use, and disposal. They are not used to evaluate the environmental fate and impact of a pesticide.
- Independent investigators have extensively studied the effects of Roundup agricultural herbicides on soil microbial communities. The results of these investigations provide compelling evidence that applications of Roundup agricultural herbicides, according to label directions, do not have long-term negative impacts on soil microflora.
 - Studies with repeated applications of glyphosate herbicide for over 10 years have not identified any long-term adverse effects on soil microbes.
 - No impact on soil microbial biomass or carbon and nitrogen mineralization has been observed as a result of herbicide application at normal use rates.

References:

Alexander, M. 1961. Introduction to Soil Microbiology. John Wiley and Sons.

Tiedje, J.M., S. Asuming-Brempong, K. Nusslein, T.L. Marsh and S.J. Flynn. 1999. Opening the black box of soil microbial diversity. Appl. Soil Ecol. 13(2): 109-122.

From: DRAKE, LISA M [AG/1085] [lisa.m.drake@monsanto.com]

Sent: Tuesday, June 09, 2009 6:16 AM

To: Leffler, Phill; Nielsen, Tina

Subject: Roundup herbicide regarding amphibian safety

Phil and Tina: here is more background on the Argentina study that referenced amphibian toxicity. We still have yet to see a published (or unpublished) or peer reviewed paper on the matter. Best –

Lisa Drake

State and Local Government Affairs Lead

Monsanto Company

P.O. Box 6544

Englewood CO 80155-6544

303-768-7331

303-514-5533 (cell)

303-799-9441 (fax)

lisa.m.drake@monsanto.com

<<Biodiversity.docx>>

This e-mail message may contain privileged and/or confidential information, and is intended to be received only by persons entitled to receive such information. If you have received this e-mail in error, please notify the sender immediately. Please delete it and all attachments from any servers, hard drives or any other media. Other use of this e-mail by you is strictly prohibited.

All e-mails and attachments sent and received are subject to monitoring, reading and archival by Monsanto, including its subsidiaries. The recipient of this e-mail is solely responsible for checking for the presence of "Viruses" or other "Malware". Monsanto, along with its subsidiaries, accepts no liability for any damage caused by any such code transmitted by or accompanying this e-mail or any attachment.

Attachment to email correspondence from Lisa Drake, Monsanto
RE Roundup herbicide regarding amphibian safety
6/9/2009

Biodiversity. Research has demonstrated a decrease in biodiversity associated with use of Roundup Ready crops. One example is a decline in pollinators. In correspondence with Adrian Card, Dr. Bohan notes that the growing and herbicide management of Roundup Ready sugarbeet can have negative effects on pollinators. "We found a significant effect of growing roundupready GM beet on pollinators... Total amounts of bees were 50% lower in GM beet than non- GM beet. This was due to the effect of herbicide killing more bee-food, flowering weeds in the GM beet" (Attachment N). Another example is a high rate of amphibian mortality associated with Roundup Ready sugarbeets (Attachment V).

Points to consider:

- BCPOS recommends requiring growers to leave a 50' buffer around surface water areas free from Roundup Ready plants in order to protect water quality and aquatic habitat as a condition of approval.

Attachment:

- V. Roundup® highly lethal to amphibians, finds University of Pittsburgh researcher, Press Release, April 1, 2005.

Response:

- Attachment V is presented as evidence of an example of amphibian mortality associated with Roundup Ready sugarbeets. This reference is a press release.
- Review of the publication indicates the concentration of the Roundup brand herbicide formulation that was tested was 6.4 mL/m², which is equivalent to 64 L/ha or 27.4 quarts/A. The test was conducted in cattle tanks containing approximately 1000 L of water and no sediment. Nearly complete mortality was observed for tadpoles of the following amphibian species: leopard frog (*Rana pipiens*), gray tree frog (*Hyla versicolor*), and the wood frog (*Rana sylvatica*). The Roundup brand formulation at the tested concentration did not have significant effects on the American toad (*Bufo americanus*), the spring peeper (*Pseudacris crucifer*) or the spotted salamander (*Ambystoma maculatum*).

Relyea RA. (2005) The impact of insecticides and herbicides on the biodiversity and productivity of aquatic communities. *Ecological Applications* 15 (2): 618-627.

- The "over water" application method used in this study is not a realistic environmental exposure. The direct application of Roundup brand herbicides over water is specifically prohibited by the U.S. product labels. The results obtained in this study, therefore, are not representative of results that would be obtained from the terrestrial application of Roundup brand herbicides. Glyphosate-containing products used for water applications are

specifically formulated for this use to enhance their safety to aquatic organisms, such as the organisms studied in this report.

- Even if direct application to water was permitted, the application rate used in this study is over 7 times greater than typical application rates for agricultural uses (1.5 lb glyphosate a.e. per acre) and over 3 times the maximum single application rate for agricultural uses (3.75 lb glyphosate a.e. per acre).
- The results of this paper are inconsistent with actual field studies conducted with Vision® herbicide, which is similar to a Canadian product Roundup Original® (Thompson et al., 2004). In the field study, no effect on mortality of the leopard frog, *Rana pipiens*, or the green frog, *Rana clamitans*, was observed after aerial application of Vision herbicide at an average application rate of 1.92 kg glyphosate acid equivalents (a.e.)/ha, very near the maximum application rate for conifer release (2.14 kg glyphosate a.e./ha).
- A risk assessment considering exposure to amphibians and other aquatic organisms concluded that terrestrial use of glyphosate formulations is predicted to pose minimal acute and chronic risk to amphibians, including tadpoles (Giesy et al., 2000).
- Geisy et al., further concluded that using the original Roundup formulation for aquatic habitat restoration can be conducted without unreasonable adverse effects on the environment, provided that factors such as application rate, depth of water, vegetation density, and overall rehabilitation goals are considered. This assessment indicates that application of Roundup in terrestrial and aquatic sites, including agriculture, forestry, residential, rights-of-way and habitat restoration, poses minimal risk to non-target species.
- Therefore there is no need to establish glyphosate buffers to protect water quality and aquatic habitat and accordingly none have been set at the state level.

References:

Thompson DG, Wojtaszek BF, Staznik B, Chartrand DT, Stephenson GR. (2004) Chemical and biomonitoring to assess potential acute effects of vision® herbicide on native amphibian larvae in forest wetlands. *Environmental Toxicology and Chemistry* 23(4): 843-849.

Giesy JP, Dobson S, Solomon KR. (2000) Ecotoxicological Risk Assessment for Roundup® Herbicide. *Reviews of Environmental Contamination and Toxicology* 167: 35-120.