

## BIOTECHNOLOGY

### World's Largest Rice Company Halts All Imports from USA

FOR IMMEDIATE RELEASE  
SEPTEMBER 29, 2006

***Bayer's illegal GE rice continues to inflict damage on US rice industry***

AMSTERDAM - September 29 - In yet another blow to the US rice industry, the world's largest rice processing company, Ebro Puleva, which controls 30% of the EU rice market, has confirmed to Greenpeace International that it has stopped all imports of rice from the USA to the EU due to the threat of contamination by genetically engineered (GE) rice.

The move follows a summer of scandals, with illegal GE contamination found in rice products all over Europe. As a result of Bayer's recklessness, the global food industry is facing massive costs associated with this contamination, including testing costs, product recalls, brand damage, import bans and cancelled imports and contracts.

In a letter to Greenpeace, the Chairman of Ebro  
*Continued on page 2*

### What is the African Traditional Herbal Research Clinic?

*We can make you healthy and wise*

**Nakato Lewis**  
**Blackherbals at the Source of the Nile, UG Ltd.**

The African Traditional Herbal Research Clinic located in Bukoto, Uganda is a modern clinic facility created to establish a model space whereby indigenous herbal practitioners and healers can upgrade and update their skills through training and certification and respond to common diseases using African healing methods and traditions in a modern clinical environment.

Traditional healers are the major health labor resource in Africa as a whole. In Uganda, indigenous traditional healers are the only source of health services for the majority of the population. An estimated 80% of the population receives its health education and health care from practitioners of traditional medicine. They are knowledgeable of the culture, the local languages and local traditions. Our purpose is to raise public awareness and understanding on the value of African traditional herbal medicine and other healing practices in today's world.

The Clinic is open and operational. Some of the services we offer are African herbal medicine, reflexology, acupressure, hot and cold hydrotherapy, body massage, herbal tonics, patient counseling, blood pressure checks, urine testing (sugar), and nutritional profiles. Spiritual counseling upon request.

Visit us also at [www.Blackherbals.com](http://www.Blackherbals.com)

**Hours: 9:00 am to 6:00 pm Monday thru Friday**  
**10 am to 4:00 pm Saturday - Sundays – Closed**

#### INSIDE THIS ISSUE

- 1 World's Largest Rice Company Halts All Imports from US
- 2 GE Technology Out of Control
- 3 **African Spirituality** – Lakota Omukulembeze W'enzikiriza
- 4 **Feature** – Biotech Wars: Food Freedom Vs. Food Slavery
- 6 **Feature**-Pharmageddon
- 7 GM Plants to Grow Vaccines Against Killer Diseases
- 7 Insects Thrive on GM Crops
- 8 **Feature** - Breaking the Law of Life
- 10 GM Crops Ruins Fields for 15 Years
- 10 We Need GM Food like a Hole in our Kidneys
- 11 Beer Giant Threatens Boycott over GM Medicinal Grain
- 13 Monsanto & Gene Giants Tighten Control over Global Seed
- 14 Monsanto Buys Terminator Seed Company
- 15 The Ultimate War Crime - Breaking the Cycle of Agriculture
- 16 Scientists Turn Albino Mice Black
- 17 **Feature** – Melanin and Bio/Nanotechnology
- 20 **Herb of the Month** – The Aloe Plant



Puleva states: "We regret that US rice is facing a problem with GM rice and decided to stop any imports of US rice since August 2006."

Ebro Puleva has also indicated that it will not consider purchasing from the US until the situation is under control. Instead, the company will purchase rice from other countries, with the exception of China, which continues to have problems with GE contamination of its rice.

"By imposing a blanket ban on rice imports from the US, Ebro Puleva has acknowledged how real and costly the risk of GE contamination is," pointed out Jeremy Tager, GE campaigner, Greenpeace International. "With GE now as uneconomic as it is unacceptable, governments in countries that grow or import GE must stop placing farmers, consumers, the environment and industry at such high risk.

At least three multi-million dollar class action lawsuits have been filed by US rice farmers against Bayer CropScience already, as farmers struggle to protect their livelihoods (3). Ebro Puleva has said they expect to bring legal actions against Bayer as well.

In January this year, Bayer's illegal GE LL601 rice was detected in rice intended for export from the US. This variety has not been approved for human consumption anywhere in the world. It has only been grown in field trials that ended in 2001, and yet in September 2006, testing commissioned by Greenpeace and then by various European government agencies showed a broad variety of products on supermarket shelves in Europe had been contaminated by Bayer's illegal GE rice. Following the Greenpeace exposé German supermarket chain Edeka announced that they would cease selling all US long grain rice. A number of European retailers, millers and processors have followed suit.

"It is now time for governments to respond strongly as well. They cannot leave enforcement of food safety laws to industry alone. We urge the EU to enforce its laws more vigorously and ensure that all member states comply, particularly those that have thus far refused to enforce EU law," concluded Jeremy Tager.

**CONTACT: Greenpeace**

Jeremy Tager, GE Campaigner, Greenpeace International:

+31 646 2211 85

Namrata Chowdhary, Greenpeace International

Communications: +31 646 1973 27

<http://www.commondreams.org/news2006/0929-12.htm>



## **GE Technology out of Control: Greenpeace discovers Contamination from Bayer's GE Rice in Middle East**

**FOR IMMEDIATE RELEASE**

**October 10, 2006**

NEW DELHI, India-Test results released today by Greenpeace International establish that rice products being sold in the Middle East region have also been contaminated by Bayer's illegal genetically engineered (GE) rice grown in field trials in the United States. (1) Contamination in the Middle East has serious global implications as the region is the world's 2nd largest importer of US rice and a major re-exporter of food throughout the Asia region.

Today, Greenpeace activists challenged Agriculture Ministers attending the International Rice Congress (IRC) in Delhi to take immediate action to prevent the continuing contamination of the world's most important staple food. Conference delegates were presented with symbolic bowls of rice with question marks.

Agricultural ministers of eight countries(2) are participating in the IRC, to set the agenda for rice production and export over the next five years, discussing trade issues as well as scientific innovations and sustainable solutions for rice production. Ironically, Bayer and Monsanto - the two main advocates for the GE industry, are jointly sponsoring the Congress, placing them in a key position to influence the agenda to their advantage. Contamination from Bayer's rice has already been found in nine countries, and resulted in import restrictions against the United States.

"The contaminated rice in the Middle East is yet another body blow to the US rice industry, already reeling under product recalls, testing requirements, import restrictions and cancelled orders in many countries," said Divya Raghunandan, GE campaigner from Greenpeace India. "Now, more than ever before, it is clear that GE crops pose a serious risk and that 'controlled field trials' are a dangerous myth. Any country allowing GE crops to be grown, even in field trials, is exposing its farmers and traders of agricultural produce to an economic and environmental disaster. A complete ban is the only solution," added Raghunandan.

Greenpeace urged governments to protect this staple food, by drawing up a clear plan of action to protect their countries from similar GE contamination, prevent genetic contamination of crops and hold Bayer accountable for its recklessness.

*Continued on page 10*

---

## AFRIKAN SPIRITUALITY

### Lakota Omukulembeze W'enzikiriza mu Ssaza lwe Wisconsin ku Nyana ze Mbogo

Bya Stefania M. Schwartz

September 19, 2006

Kumpi gonna amawanga gabayindi abamerika naga bakanada agasoka. Enyana nze mbogo enjeru Zimanyidwa nga ntukuvu munsinza. Eri ensi za Lakota, Dakota n'e Nakota Siouxan, Zikola Omulimu munzikiriza ye kinansi n'ebyo bunabbi.

Nga wewabadde wabawo okuzalibwa kwe nyana zino okutono, ekyamagero. Kyatuka ku famu yabo mumaka ga Keider mu Janesville, mu ssaza lwa Wisconsin mu mwaka 1994, okuva olwo enyana zeyongera okuzalibwa mu gwanga lyonna. Ekyewunyisa era ekyamagero, enyana zino zizalibwa ku mafamu nga banyinigo si batuuze bo mwamerika – okugatta kwekyo, nga akabonero k'essubi lyemirembe, abantu okuva mubyo buwangwa ebye njawulo batandise okubimanya n'okuwa ebitonde bino ekitibwa.

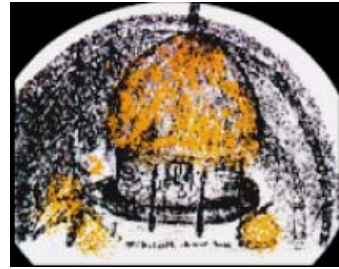
Kino ekya magero kyaffa embagirawo mu 2004 nga kyaffa olwe mbera y'ensi ku myaka kkumi gyoka egyobu kulu, kino kyaleetawo okutya mu mawanga mangi otwetolola ensi yonna.

Kati era nendala embogo enjeru eyatumibwa ekyamagero ekyo kubiri ewa Valerie Heider, kyazalibwa ku famu yenyini mu Ssaza lwa Wisconsin mu kumyansa n'omuyaga ku Augusto 25, 2006.

Daudi Swallow, teton oglala Lakota omukulembeze wenzikiriza y'ekinansi okuva kunjegoyego z'obusozi obumanyidwa nga pine, yayogera, leero ku kigendererwa n'obubaka bwalaba mukuzalibwa kwe nyana.

Era akiriza nti erinya lwe nyana eno, kitundu kya bubaka. Yagamba "Erinnya tuffu, silyabutanwa, amazalibwa g'ekyamagero ekyokubiri mukisa era yye, mukisa gwakubiri eri bonna abantu." Okuva olwo abantu be okumyansa kwe ggulu kulaga okusanyizibwawo kwe kibi, Swallow awulira nga obubaka buno bwamanyi.

Swallow agenda maaso n'okutaanya nti engero z'obuwangwa bwabantu be ziraga nti obutukuvu bwe nyana



*The traditional shrine as a symbol of our cultural history*

---

yembogo enjeru enkazzi bwajira mu kiseera kyo bwetavvu n'okuyobagana n'entalo. Eno yaleeta abantu okufuna emirembe, n'okubera obulungi. Mukusoka yaggiranga basajja era mubera eno, omusajja omu yafuna ebitibwa, oyo eyaraga obwetowazze ne nkolagana eri omutukirivu. Omulala yafulibwafulibwa era nafulibwa kasasiro olwe bikolwa bye ebitali bitukuvu.

Swallow akiriza nti era bijakuddamu okubawo mu nsi omulundi omulala, "amazalibwa g'enyana garaga nti omulabe ajja kusanyizibwawo," bye yayogera.

Ebigambo bye abyogera ati "kye kiseera amawanga gaberu nagyona emikutu gye byobuwangwa okudda mu mbeera y'obulamu ennungi, mu mirembe n'obuntu bulamu nabuli omu era n'ejjajjaffe nsi. Mu kukola bino obulamu bujagenda mu maaso mu nsi.

Naye Swallow yali mulambulukuffu nti waliwo obubaka eri amawanga yonna gyegali. Yaraga nti omutukuvu omukyala wanyana mbogo omweru yali aleese omutukuvu c'anumpa, emindi eri abantu be nti bagikozese nga mu kusaba mungeri enungi kisobozese essala zabwe okuwulirwa omutonzi.

Swallow yakuba omulanga eriabobonna okwetikka c'anumpa. Yagamba "Abetisi b'emindi, wadde banansi bo mwamerika oba nedda, betaga okujayo emindi zabwe neba zikozesa buli lunaku mukusabira emirembe n'obumu okudda mu nsi mumbeera enungi. Basabe nti "banagagga" banazukuka n'ebalekelawo okwonona jjaajja ffe omukazi nsi olwe byefuna era obutonde bwe budde munteko. Osobola okukola enjawulo, eyanamaddala. C'anumpas zetaga okukozesebwa bonna olwe kigendererwa eri abo ababwetika. Betaga okukikola buli lunaku ateera n'okutambula n'essala ezo mumitima."

Swallow ayongerezako "oluzungu lwange silulungi, Nina okwegendereza kubanga ebiseera ebimu nkozesa

*Continued on page 11*

---

Managing Editor: Nakato Lewis

PUBLISHER: KIWANUKA LEWIS

Published monthly by BHSN for the African Traditional Herbal Research Clinic

### FEATURED ARTICLES

## Biotech Wars: Food Freedom vs. Food Slavery

By Vandana Shiva

June 15, 2003

Monsanto through the U.S. government, is trying desperately to reverse its failing fortunes by creating markets for its genetically engineered crops (GMOs) through coercion and corruption.

The E.U. has not yet cleared GM crops for commercial planting or GM food for imports. Brazil has had a ban on GM crops. And India has not cleared GM food crops and has stopped the spread of genetically engineered Bt. Cotton to Northern India after its dismal performance in Southern India in the first season of commercial planting in 2002.

E.U., Brazil and India are all under attack overtly and covertly, for not rushing into adopting genetically engineered crops without caution and ensuring biosafety.

The U.S. has threatened to initiate a dispute against the E.U. in the W.T.O. for not importing genetically modified foods. The U.S. trade representative, Mr. Zoellick was in Brazil at the end of May to force Brazil to remove the ban on GM crops. The U.S. Secretary of State tried to bully Southern African countries to the Earth Summit in Johannesburg to accept GM food and, but Zambia refused to be bullied. In India, the U.S. Embassy tried to pressurize the Ministry of Environment through the Prime Minister's office to clear imports of GM corn, but a major mobilisation of women's groups organized as the National Alliance of Women for Food Rights under the movement of Diverse Women for Diversity, was successful in sending back two ship loads of 10,000 tons of GM corn. Since then the Chairman of the Genetic Engineering Approval Committee which rejected GM crops and imports has been removed and the Agricultural Ministry has been changed.

Free people with free information are saying no to genetically engineered food for both ecological and health reasons. However genetic engineering is being imposed on the world by a handful of global corporations with the backing of one powerful government.

Commercial crops produced through genetic engineering are not producing more food nor are they reducing the use of chemicals. While the hunger argument is the most frequently used argument to promote and push genetic engineering, GMOs have more to do with corporate hunger for profits than poor people's hunger for food. As a news item in the international Herald Tribune of May 29, 2003 titled, "Biotech war recast as hunger issue" reported,

President George W. Bush is framing his attack on European resistance to genetically modified crops as part of a campaign against world hunger.

Bush and his aides are making an emotional plea, saying the administration's stance is part of the fight against world hunger. In a speech last week he accused Europe of hindering the "great cause of ending hunger in Africa" with its ban genetically modified crops." (IHT, May 29, 2003)

The technology of genetic engineering is not about overcoming food scarcity but about creating monopolies over food and seed, the first link in the chain and over life itself.

After having pressurized Lula's government in Brazil to temporarily remove the ban on GMOs, Monsanto is now claiming royalties for genes in the Round up Resistance Soya crops, showing once again that profits through royalty collection are the real objective of spreading GM crops.

India has been forced to change its patent laws under TRIPS and the main beneficiary of the Second Amendment to India's Patent Act of 1970 are biotech corporations like Monsanto, seeking patents on genetically engineered crops.

Patents also criminalize and make illegal the human work of life's reproduction. When seeds are patented, farmers exercising their freedom and performing their duty of saving and exchanging seeds are treated as "intellectual property thieves". This can reach absurd

*Continued on page 5*

*Continued from page 4 –*

limits as in the case of Percy Schmieser whose canola field was polluted by Monsanto's Round up Resistant Canola, and instead of Monsanto compensating Percy for pollution on the "polluter pays principle", Monsanto sued him for \$200,000 for theft of their genes. Monsanto uses detective agencies and police to track farmers and their crops. Patents imply police states.

Genetic engineering is not merely causing genetic pollution of biodiversity and creating bio-imperialism, monopolies over life itself. It is also causing knowledge pollution -- by undermining independent science, and promoting pseudo science. It is leading to monopolies over knowledge and information.

The victimisation of Dr. Arpad Putzai who showed the health risks of GM potatoes and Dr. Ignacio Chapela who showed that corn had been contaminated in its centre of diversity in Mexico are examples of the intolerance of a corporate controlled scientific system for real science.

The fabrication of the data by Monsanto on Bt. Cotton India is an example of the promotion of an unnecessary, untested, hazardous technology through pseudo science. While yields of GM cotton fell by 80% and farmers had losses of nearly Rs. 6,000/acre, Monsanto used Martn Qaim (University of Bonn) and David Zilberman (University of California, Berkeley) to publish an article in Science to claim that yields of Bt. Cotton increased by 80%. Qaim and Zilberman published the paper on the basis of data provided by Monsanto from Monsanto's trials not on the basis of the harvest from farmers fields in the first year of commercial planting. The fabricated data that presents a failure of Bt. Cotton as a miracle hides the fact that non-target insects and diseases increased 250-300%, costs of seed were 300% more and quantity and quality of cotton was low. This is why on April 25, 2003, the Genetic Engineering Approval Committee (GEAC) of the Government of India did not give clearance to Monsanto to sell Bt. Cotton seeds in Northern India.

The false claims of Monsanto were also proved with a total failure of Hybrid maize in the state of Bihar and a black listing of the company by the government.

In Rajasthan, Monsanto gave itself an award for miracle yields. While the brochures claimed 50-90 Q/acre, farmers harvested only 7 Q/acre, 90% lower than the promise. Farmers of the Udaipur district of Rajasthan have started a campaign to boycott Monsanto seeds.

Our crops are being polluted, our food contaminated, our scientific research and regulatory agencies threatened and corrupted.

This is the context in which the Biotech Conference for Agriculture Ministers in Sacramento, California, hosted by Ann Vanneman, the U.S. Secretary for Agriculture is taking place. Ann Vanneman used to head Agracetus, a subsidiary of Monsanto. The Brazilian Agriculture Ministry is held captive by Monsanto. The removal of India's Agriculture Minister, Ajit Singh, a few months before general elections, is to ensure that the threat to peasant survival under corporate control of agriculture is not put high on the agenda and India's Agriculture Ministry also comes under Monsanto/Cargill control. The first activity in which the new Agriculture Minister Rajnath Singh participated was a Global Seed Conference organised by the Biotech industry.

Sustainability and science are being sacrificed for a reckless experiment with our biodiversity and food systems which is pushing species and peasants to extinction. We need to re-imbed technology in ecology and ethics to ensure that the full ecological and social costs are taken into account.

What is at stake is the evolution of nature and survival of people, our food sovereignty and food freedom, integrity of creation and our food systems based on the evolutionary freedom of nature and democratic freedoms of farmers and consumers. The choice before us is bio-imperialism or bio-democracy. Will a few corporations have a dictatorship over our governments, our knowledge and information, our lives and all life on the planet or will we as members of the Earth family liberate ourselves and all species from the prison of patents and genetic engineering? We need to reclaim our food freedom and food sovereignty.

Our movement in India seeks to defend our seed freedom (Bija Swaraj) and food freedom (Anna Swaraj) by defending our rights, and refusing to cooperate with immoral and unjust laws (Bija Satyagraha). We save and share our seeds, we boycott corporate seeds, we are creating patent free, chemical free, genetic engineering free zones of agriculture to ensure our agriculture is free of corporate monopolies and chemical and genetic pollution. Our bread is our freedom. Our freedom will ensure our bread. And each of us has a duty to exercise bread freedom (Anna Swaraj) -- for the sake of the earth, for all species, and for ourselves and the generations to come.

<http://www.zmag.org/sustainers/content/2003-06/15shiva.cfm>



**COME BACK TO YOUR ROOTS**

**BLACKHERBALS AT THE**

**SOURCE OF THE NILE, UG LTD**

**for all your natural health needs**

### FEATURED ARTICLES

# 'Pharmageddon'

By Dr. Mae-Wan Ho  
Institute of Science in Society

*Our fields are being turned into pharmaceutical and industrial factories that poison our food supply and entire life support system. Our governments have been warned and should be held liable for all damages along with the companies involved. [Dr. Mae-Wan Ho](#) reports.*

On November 11, the US government ordered the biotech company, ProdiGene, to destroy 500,000 bushels of soybeans contaminated with GM maize, engineered to produce a drug not approved for human consumption [4]. The US Department of Agriculture (USDA) refused to give details on the protein involved because it is deemed 'confidential business information'.

It could be one of the following [5]: the HIV glycoprotein gp120, a blood-clotting agent (aprotinin), a digestive enzyme (trypsin), an industrial adhesive (a fungal enzyme, laccase), vaccines for hepatitis B, vaccine for a pig disease, transmissible gastroenteritis.

USDA records show that ProdiGene has received 85 test permits for experimental open-air trials of pharm crops and chemical crops in at least 96 locations.

The 'edible' AIDS vaccine with the HIV glycoprotein gp120 gene [6] has been condemned as dangerous by a number of AIDS virologists [7-9] because the gp120 gene and gene product can undermine our immune system and generate new viruses and bacteria that cause diseases.

A day later, the US government disclosed that ProdiGene did the same thing in Iowa back in September. The USDA ordered 155 acres of nearby corn to be incinerated for fear of contamination [10,11].

This is just the tip of the iceberg. The true extent of the contamination remains unknown owing to the secrecy surrounding more than 300 field trials of such crops across the country since 1991. Still others sites are in Canada [3]. The chemicals these plants produce include vaccines, growth hormones, clotting agents, industrial enzymes, human antibodies, contraceptives, immune

suppressive cytokines and abortion-inducing drugs.

The majority of engineered biopharmaceuticals are being incorporated into maize. ProdiGene, the company at the centre of the current scandal has the greatest number of pharm crops and projects that 10 percent of the US maize will be devoted to biopharm products by 2010.

Far from supporting even weak containment strategies such as buffer zones, ProdiGene has told its shareholders it is hoping to "gain regulatory approval to lessen or abandon these requirements altogether".

Trials in other countries have also come to light. According to a recent report by Genetically Engineered Food Alert, a US-based coalition of environmental and consumer advocacy-groups, Puerto Rico is one of four main centres in the US for these tests. The other three are the states of Nebraska, Wisconsin and Hawaii.

Another report by the same group reveals that these plants are by no means the only experimental GM crops grown in Puerto Rico. This Caribbean island has been host to 2,296 USDA-approved GM open-air field tests as of January 2001, making Puerto Rico host to more GM food experiments per square mile than any US state, except Hawaii.

Puerto Rico is not a state. Its residents are US citizens but have no voice or vote in the US Congress or in the UN.

Puerto Rico Farmers Association president Ramon Gonzalez revealed that he plants GM crops in his farm in the town of Salinas. He said that genetically modified crops in Puerto Rico are commercial and include a herbicide-resistant soya made by Monsanto (Roundup-ready) and a variety of corn that produces its own bio-pesticide, or Bt corn.

According to Gonzalez, the harvested GM crops planted there are sold as seed to be planted elsewhere. "Puerto Rico is the preferred place to make seed because

*Continued on page 7*

our weather permits us to have up to four harvests a year."

Local regulatory agencies seem to be unaware of the issue. A spokeswoman for the Puerto Rico Environmental Quality Board said that as Puerto Rico has no laws or regulations for GM crops, it has no mandate to intervene or investigate.

USDA spokesman Jim Rogers is reported to have said, "Nobody's going to know all the possible risks", and "We mitigate these risks to what we feel is appropriate" [12].

On the contrary, we *do* know enough of the risks for such crops to be banned immediately. The USDA and other government regulators have been warned, and they should be held liable for all damages along with the companies involved.

<http://www.i-sis.org.uk/Pharmageddon.php>



## **GM Plants to Grow Vaccines against Killer Diseases**

**Dave Sanders**

**March 18, 2005**

*Genetically modified (GM) plants are to be used to grow vaccines for use in the worldwide fight against HIV, tuberculosis, diabetes and rabies thanks to a grant of 12 million euros from the EU's Sixth Framework Programme (FP6).*

'Pharma-Planta' draws on the expertise and experience of 39 scientists from 11 European countries and South Africa to address significant health problems affecting Europe and the developing world - although the primary aim is to provide medicines for poorer countries.

In the first international project of its kind, 'Pharma-Planta' will develop the concept from plant modification through to clinical trials and they expect to begin human trials of the drugs within four years.

"We are addressing the serious issue of global inequality of health", says scientific coordinator, Professor Julian Ma from St George's Hospital Medical School in London. "Although the major burden of 21st century disease is in the developing world we have to accept it as a global problem as these are the countries that do not have access to vaccines.

"We know we can use GM technology to force a plant's molecular apparatus to produce a range of medically useful compounds. Already genetic modification of other

organisms is being used to produce human insulin and a hepatitis B vaccine. However, plant derived materials used in humans have never been formally addressed within the EU. So, this is a ground-breaking project that aims to provide help for the millions of people that die each year throughout the world from vaccine preventable diseases."

Because plants are inexpensive to grow they could be used to produce large quantities of drugs or vaccines at low cost - anywhere between 10 and 100 times lower than conventional production, which is often labour intensive, expensive and often produces relatively small amounts of pharmaceutical.

If the project is successful, the techniques would be licensed to developing countries. They would then be able to start up their own production to generate whatever amount they require at a cost that would not impact greatly on the countries economy. Although the project has not finally decided which plants will be used, the likely candidates are tobacco or maize.

"The 'Pharma-Planta' project is an excellent example of how EU Framework Funding is being used to help research and development projects that will have a major impact on the everyday lives of people both in Europe and around the world", says Claire Horton FP6UK's National Contact Point for 'Life sciences, genomics and biotechnology for health. "This funding helps bring together experts from different countries to work together in the fight against diseases that can affect us all.

"The current Framework Programme (FP6) runs until 2006 and organisations wanting free information on how to access some of the 19 billion euros available should log on to <http://fp6uk.ost.gov.uk> or call central telephone support on 0870 600 6080."

[www.innovations-report.com](http://www.innovations-report.com)



## **Insects Thrive on GM Crops**

**Geoffrey Lean, The Independent**

**March 30, 2003**

New evidence suggests that insects are thriving on the (Bt) pesticide that is engineered into Genetically Modified crops. Genetically modified crops specially engineered to kill pests in fact nourish them, startling new research has revealed.

*Continued on page 12*

### FEATURED ARTICLES

## BREAKING THE LAW OF LIFE

ANDREW KIMBRELL

**The way we steal genetic materials from the Third World is nothing but modern-day biopiracy.**

THE BRAVE NEW frontier of genetic engineering is extending humanity's reach over the forces of nature as no other technology has ever done. Scientists can now isolate, snip, insert, recombine, rearrange, edit, programme, and produce biological and genetic material. In fact, scientists for the first time have the potential to become the architects of life itself, the authors of a technological evolution designed to create new species of microbe, plant and animal that are more profitable for agriculture, industry, biomass energy production, and research than the ones nature gave us.

This biotechnology boom in the industrialized world has massively increased corporate demand for an unconventional form of natural resources: not the minerals and fossil fuels of the industrial age, but rather living materials found primarily in the Southern Hemisphere.

According to the World Resources Institute, more than half the world's plant and animal species live in the rainforests of the Third World - and nowhere else on Earth. Ironically, as industrial expansion and pollution reduce the number of species, we are witnessing a "gene rush" as governments and multinational corporations aggressively scout the continents in search of genetic material.

"Bioprospecting" is a potential gold- mine for both science and business, since genetic material found in the developing world may yield cures for diseases as well as cash. But what also looms on the horizon, and in fact is already occurring in many parts of the developing world, is "biopiracy", where corporations use the folk wisdom of indigenous peoples to locate and understand the use of medicinal plants and then exploit them commercially. U.S. and European scientists hoping to find cures worth billions of dollars have even taken samples of the blood, hair, and saliva of indigenous peoples. Indigenous peoples' knowledge, their resources and even their bodies are being pirated, and they receive little or nothing in return.

MODERN-DAY BIOPIRACY is not just the product of new science and corporate greed, but also of new law. The economic trigger for bioprospecting was provided by a little- known 1980 US Supreme Court decision, *Diamond V. Chakrabarty*. Its impact makes this unheralded court decision one of the most important judicial decisions of the twentieth century. The case began in 1971 when Indian microbiologist Ananda Mohan Chakrabarty, an employee of General Electric (GE), developed bacteria that could digest oil. That same year, GE applied to the US Patent and Trademark Office (PTO) for a patent on Chakrabarty's genetically engineered oil-eating bacteria. After several years of review, the PTO rejected the application under the traditional legal doctrine that life-forms ("products of nature") are not patentable.

The case was eventually appealed to the US Supreme Court, which handed down its surprise opinion in June, 1980. By a five-to-four margin the court ruled that the patent was to be granted. The highest court in the United States had decided that life was patentable, stating that the "relevant distinction is not between living and inanimate things, but whether living products could be seen as 'human-made inventions'.

Allowing a patent on a life-form proved to be a slippery slope: In 1985 the PTO ruled that genetically engineered or altered plants are patentable. In 1987 the PTO extended patenting to all altered or engineered animals. Within a few years, microbes, plants, animals, human cells, cell lines and genes were being patented.

The impact on the globalization of biotechnology has been profound. A corporation or government entity can expropriate a natural substance found in a Third World location, isolate valuable genetic material, patent it as the company's property, and have a monopoly on commercial uses of the genetic product for approximately two decades. By a margin of one vote, the US Supreme Court handed over the genetic commons of the Earth to private ownership.

*Continued on page 9*

---

*Continued from page 8 – Breaking the Law of Life*

Biotechnology and new patent law have allowed companies to capitalize on even the smallest of life-forms. The Merck pharmaceutical company has patented microbial samples from nine countries. These include soil bacteria from a heather forest on Mount Killimanjaro, a Mexican soil fungus useful in the manufacturing of male hormones, a fungus found in Namibian soil of potential use in treating manic depression, soil bacteria in India that serve as an anti-fungal agent, and Venezuelan soil bacteria patented for use in the production of antibiotics.

And Merck is not alone in its corporate ownership of micro-organisms. Each year the drug industry spends billions searching the world's soils for valuable micro-organisms.

The biopirates are also on the lookout for profitable, patentable plants. In one remarkable example, several Northern corporations have been granted more than thirty US patents on the Neem tree of India - and not only on the tree, but also on the indigenous knowledge about its many uses. In another act of biopiracy, two drugs derived from the rosy periwinkle - vincristine and vinblastine - earn \$100 million annually for Eli Lilly. The plant is indigenous to the rainforest of Madagascar; and the country has received nothing in return.

Pharmaceuticals are among the most lucrative areas for the international biopirates. In Europe, Australia, Canada and the United States the market value for both prescription and over-the-counter drugs based on plants is estimated to be in excess of \$70 billion. Well over 50% of the world's estimated 250,000 plant species are in tropical rainforests. Only a small fraction of them have been investigated as a source of potential new drugs, and the rapid destruction of tropical forests has hastened corporations' screening, appropriation and patenting processes.

The mounting intensity of the biopirates' assault on Third World genetic resources can also be seen in the enormous pressures placed on governments by agricultural and drug companies to pass the General Agreement on Tariffs and Trade (GATT) and other international trade structures, including the Convention on Biological Diversity, that cement the right of private actors to patent the resources and indigenous knowledge of the Third World. The result is an ever-increasing use of patenting and licensing agreements by transnational corporations to secure a monopoly over valuable genetic materials that can be developed into profitable drugs and energy sources.

THE BIOPIRATES ARE interested not only in microbes and plants, but also in the very bodies of indigenous people. For decades the United States and other industrialized countries have been buying the blood of the poor in the Third World and selling it on the open market. Now scientists and researchers are racing to locate, identify and find commercial uses for human genes from various indigenous populations. The search for valuable human genetic material is fuelled by the fact that human genes and cells are now patentable. Over the past decade the US Patent Office has allowed patents on human genes, cells and cell lines. The lure of patent profits is leading a growing army of international gene hunters hoping to find potentially profitable genetic materials from Third World peoples.

For example, in May 1989 researchers took blood samples from twenty-four members of the Hagahai tribe of Papua New Guinea. The patent application describes the Hagahai as "a 260-member hunter- horticulturist group" that inhabits New Guinea's Madang Province. A cell line developed from the Hagahai might be valuable in diagnosing adult leukaemia and chronic degenerative neurologic disease. Another patent claim filed on behalf of the US government involves a human cell line derived from a forty- year-old woman and a fifty- eight-year-old man, both of the Solomon Islands; this cell line, too, may be useful in diagnosing disease. In neither case were the people asked for their consent, nor were their traditions and values considered.

In 1991, an informal consortium of scientists in North America and Europe launched a campaign to take blood, tissue and hair samples from hundreds of "endangered" and unique human communities throughout the world. The initiative is called the Human Genome Diversity Project (HGDP).

Many indigenous communities have condemned the HGDP. In February 1995, leaders representing indigenous nations throughout Canada, the United States, Panama, Ecuador, Peru, Bolivia and Argentina issued a statement opposing the HGDP and noting that it "opens the door for potential widespread abuse of human genetic materials for scientific, commercial, or military purposes . . . The proposed research holds little or no benefit to the donor populations."

To reverse the rapidly increasing biopiracy that is sweeping the globe, it is imperative that the current regime of bioimperialism be replaced by international structures based on biodemocracy: recognition of the intrinsic value of all life-forms and preservation of their genetic integrity. Biodemocracy recognizes the and rights of source communities and requires that nation-states

*Continued on page 10*

"The extent of contamination necessitates an urgent response. This rice and its by-products could be on supermarket shelves anywhere," warned Jeremy Tager, GE Campaigner from Greenpeace International. "We urge agricultural ministers to immediately order comprehensive testing of all products that may have been exposed to contamination from GE rice, and to impose strict import controls on any goods imported from GE rice-growing countries. It will take a globally coordinated approach to ensure that citizens everywhere are responsibly protected from GE-contaminated products," concluded Tager. Notes to Editor

Notes to editors:

1. The following samples were found to contain traces of Bayer's illegal LL601 GE rice when tested at an independent laboratory.

Product details

Uncle Ben's long grain rice: Purchased at Geant supermarket Dubai, United Arab Emirates (UAE)

Riceland Chef-way, preboiled rice: Purchased at Carrefour supermarket, Dubai, UAE

Riceland, preboiled rice: Purchased at Geant supermarket Dubai, UAE

American Rice, INC, parboiled rice: Purchased at City Center supermarket Salmiya, Kuwait

2. China, Indonesia, India, Laos, Nepal, Philippines, Thailand, and Vietnam.

**CONTACT: Greenpeace**

<http://www.commondreams.org/cgi-bin/newsprint.cgi?file=/news2006/1010-14.htm>



## **GM Crop 'Ruins Fields for 15 Years'**

**By Geoffrey Lean, Environment Editor**

**09 October 2005**

GM crops contaminate the countryside for up to 15 years after they have been harvested, startling new government research shows.

The research - which has taken even the most ardent opponents of GM crops by surprise - radically undermines one of the key benefits claimed for them. And it suggests that they may be an even greater threat to organic farming than has been envisaged.

*Continued on page 12*

## **We Need GM Food Like a Hole in Our Kidneys**

**By Kirsten Schwind and Hollace Poole-Kavana**

*CommonDreams.org*

**21 June 2005**

When the Biotechnology Industry Organization (BIO) meets this year in Philadelphia, Monsanto and its colleagues will not be gathering to talk about how to save the world. The goal of this industry, like any other, is to make a profit by convincing consumers that we need what they're selling. Genetically modified (GM) food - plants and animals that have been inserted with genes from other organisms - aren't meeting any real human needs. Despite claims from the biotech industry, GM foods cannot end world hunger, and new studies add to the evidence that they may pose a serious threat to human health.

A recent study conducted by Monsanto itself indicated abnormalities in the kidneys and blood of rats fed MON863, a strain of Bt corn that many Americans eat every day without our knowledge. Monsanto has resisted calls from the European Food Safety Agency to release the full study to the public, leading to a court order to do so from a German judge. Thank goodness for some degree of concern from the Europeans, because watchdogs in the United States are gnawing on the bones of corporate-induced complacency. The US Food and Drug Administration (FDA) approves GM foods for public consumption simply by comparing the nutritional content between GM and non-GM foods, and checking a database of known allergens. According to the logic of the FDA, we are the lab rats.

What of the famed argument that GM crops are worth it because they will resolve world hunger? GM crops fundamentally cannot end hunger because hunger isn't caused by a lack of food. The world currently produces enough food for everyone on earth to consume over 2,800 calories a day - that's enough to make most people a bit pudgy. The problem is that food doesn't go the hungriest people because they don't have the resources to buy it or grow it. Pennsylvania is full of productive farms, yet one in ten residents of the City of Brotherly Love knows hunger all too well. Hunger is caused by a lack of access to basic human rights, including good education, health care, housing, and living wages - in the United States and throughout the world. Hunger is also caused by racism and inequality. These topics aren't on the agenda of this year's BIO conference.

*. Continued on page 12*

---

# Beer Giant Threatens Boycott over GM 'Medicinal' Grain

CNN.com  
April 12, 2005

WASHINGTON (AP) -- Anheuser-Busch Cos., the nation's No. 1 buyer of rice as well as its largest brewer, says it won't buy rice from Missouri if genetically-modified medicinal crops are allowed to be grown in the state.

The St. Louis-based beer giant is the latest company to express concern over plans by Ventria Biosciences to grow 200 acres of rice engineered to produce human proteins capable of making medicine.

The company says it is concerned about possible contamination.

Biotechnology firms have been seeking federal approval for outdoor plantings, often called "biopharming" because the idea is to lower drug-making costs by using plants to grow medications.

Other food companies, environmentalists and farmers have said they fear genetically-altered rice could cross-pollinate other food crops and introduce foreign genes into the regular food chain.

Last month, Arkansas-based Riceland Foods Inc., the world's largest rice miller and marketer, asked federal regulators to deny a permit for Ventria's project, saying Riceland customers don't want to risk buying genetically-modified rice. Anheuser-Busch is believed to be the first major company to threaten a boycott over the issue, according to comments filed last month with the Agriculture Department.

"Given the potential for contamination of commercial rice production in this state, we will not purchase any rice produced or processed in Missouri if Ventria introduces its pharma rice here," Jim Hoffmeister, a vice president at Anheuser-Busch, said Tuesday.

Scott Deeter, president of Sacramento-based Ventria, called Anheuser-Busch's threat "totally irresponsible" and said fears of contamination are overblown. He cited Ventria's plans to use "a totally closed system of production" with a plant that pollinates itself and is separated geographically from any other crop.

Biopharming has been growing for a decade despite continued attacks from genetic engineering foes who fear such work has not been studied enough to ensure the safety of the nation's food supply if accidental mixing occurs.

Genetically-modified crops are regulated by the USDA, but state governments are allowed to review safety procedures and suggest more stringent regulation of the companies before a permit is issued.

Ventria is seeking USDA approval to grow rice genetically enhanced with synthetic human genes to produce the proteins lactoferrin and lysozyme, which the company hopes to harvest and refine for use in medicines to fight diarrhea and dehydration. The USDA can either deny Ventria's permit or issue a permit with additional conditions.

Since 1995, the USDA has approved more than 300 biopharming plantings around the country, though most are for small outdoor plots of less than an acre each. If Ventria's application is approved, its site would be the largest to date, USDA spokeswoman Karen Eggert said.

No human drug made from genetically-engineered crops has yet been approved for commercial use.

The issue has already roiled California's \$500 million-a-year rice industry. Last year, California regulators denied Ventria's application to grow commercial quantities of rice with human genes after rice growers said they feared international customers would refuse to buy conventionally-grown crops out of contamination fears.

Meanwhile, farmers in southeast Missouri, where nearly all of the state's \$100 million rice crop is grown, have presented Missouri's agriculture director a petition with 175 signatures opposing the plans. Missouri is the sixth-largest rice-producing state.

Despite the concerns, the Missouri Farm Bureau has continued to support Ventria, which recently announced it was moving from Sacramento, California to Northwest Missouri State University. There it will become the anchor tenant of a new center for plant-made pharmaceuticals.

"Any concerns have been addressed thoroughly to the satisfaction of the scientific community," said university president Dean Hubbard.

<http://www.cnn.com/2005/US/04/12/beer.genetic.ap/index.html>



*Continued from page 3 – African Spirituality*

ebigambo ebikyamu nebantegera bubi. Naye buli muntu ayina okutegera kino bulungi fena twetaga okusaba oba olina c'anumpa oba nedda, oba oli mumerika muyindi oba nedda. Twetaga okusaba kubanga kujakuba kusaba okunakyusa emitima gyabo abayonona ensi yaffe."

Swallow yakomekereza nga gamba. "Njogedde guno gwe mukisa gwaffe ogusembayo eri abantu. Kansabe abantu banazukuka n'ebawulira obubaka. Obulamu bwaffe n'ensi biyimiridde kwekyo" ho leetu yelo, njogedde.

*Continued on page 19*

---

***Continued from page 10 – We Need GM like a Hole***

If the world were to face a future shortage of food, GM technology would not be much help. Planting small farms and gardens with a diverse array of crops can grow several times more food per acre than the large, mechanized farms for which GM seeds were developed. The main reason some farmers plant GM crops is to try to lower their production costs. But GM crops don't always accomplish this goal either. Recently the Indian state of Andra Pradesh banned Monsanto from selling GM cotton seeds after farmers realized they were more expensive to grow than the regular varieties.

GM seeds cause other headaches for farmers as well. For as long as humans have grown food, farmers have developed better seeds through natural cross-breeding, and exchanged seeds to share the best varieties. Seeds are a fundamental common good of human civilization.

When biotech companies convinced the US Patent Office to allow them to patent seeds, single companies claimed ownership of entire cultural legacies, with just one laboratorial tweak. As farmers buy GM seeds from Monsanto, they must sign a contract recognizing the company's intellectual property rights over the seed, and promise not to share or save any to use the next year. However, plants breed naturally with no knowledge of who signed a contract, and pollen from GM corn blows easily into neighboring fields. Monsanto has mounted a campaign to sue farmers whose fields have been unknowingly contaminated with genes from GM seeds, driving some farmers into bankruptcy.

The protesters greeting this year's BIO conference in Philadelphia are driving home an important point - unless you fancy the idea of being a lab rat, genetically modified food is a risky technology that we simply don't need.

*[Kirsten Schwind](#) is Program Director at the [Institute for Food and Development Policy](#), also known as Food First.*

*She holds a masters degree in Natural Resources Management from the University of Michigan, and collaborates with small-scale farmers throughout the world. Hollace Poole-Kavana is an Associate at Food First who studied biology at Cornell.*



***Continued from page 11 – GM Crops Ruin Fields 15 Years***

The findings cast a cloud over the prospects of growing the modified crops in Britain, suggesting that farmers who try them out for one season will find fields blighted for a decade and a half.

Financed by GM companies and Margaret Beckett's Department of the Environment, Food and Rural Affairs, the report effectively torpedoes the Government's strategy for introducing GM oilseed rape to this country.

Ministers have stipulated that the crops should not be grown until rules are worked out to enable them to "co-exist" with conventional ones. But the research shows that this is effectively impossible.

The study, published by the Royal Society, examined five sites across England and Scotland where modified oilseed rape has been cultivated, and found significant amounts of GM plants growing even after the sites had been returned to ordinary crops. It concludes that the research reveals "a potentially serious problem associated with the temporal persistence of rape seeds in soil."

The researchers found that nine years after a single modified crop, an average of two GM rape plants would grow in every square metre of an affected field. After 15 years, this came down to one plant per square metre - still enough to break the EC limits on permissible GM contamination.

Last night Pete Riley, the director of GM Freeze, said; "It is becoming clearer and clearer that it is going to be impossible to grow GM crops in Britain."



***Continued from page 10 – Insects Thrive on GM Crops***

It strikes at the heart of one of the main lines of current genetic engineering in agriculture: breeding crops that come equipped with their own pesticide. Biotech companies have added genes from a naturally occurring poison, *Bacillus thuringiensis* (Bt). The engineered crops have spread fast. The amount of land planted with them worldwide grew more than 25-fold - from four million acres in 1996 to well over 100 million acres (44.2m hectares) in 2000 - and the global market is expected to be worth \$25bn (£16bn) by 2010.

Drawbacks have already emerged, with pests becoming resistant to the toxin. Environmentalists say that resistance develops all the faster because the insects are constantly exposed to it in the plants, rather than being subject to occasional spraying as is the method used by organic farmers.

But the new research - by scientists at Imperial College London and the Universidad Simon Rodrigues in Caracas, Venezuela - adds an alarming new twist, suggesting that pests can actually use the poison as a food and that the crops, rather than automatically controlling them, can actually help them to thrive.

*Continued on page 16*

---

# Monsanto & Gene Giants Tighten Control over Global Seed Stocks

*Control over Seeds controlled by increasingly few corporations*

From: [www.etcgroup.org](http://www.etcgroup.org)

September 06, 2005

## Global Seed Industry Concentration - 2005

The ETC Group today releases a new Communiqué on seed industry consolidation that shows a recent upsurge in seed industry takeovers and a shake-up in rankings.

According to ETC Group, the top 10 multinational seed firms control half of the world's commercial seed sales. With a total worldwide market of approximately US\$21,000 million per annum, the commercial seed industry is relatively small compared to the global pesticide market (\$35,400 million), and it's puny compared to pharmaceutical sales (\$466,000 million). But corporate control and ownership of seeds - the first link in the food chain - has far-reaching implications for global food security. A single firm, Monsanto, now controls 41% of the global market share in commercial maize seed, and one-fourth of the world market in soybean seeds. The same company's seeds and biotech traits accounted for 88% of the total area planted in genetically modified seeds worldwide in 2004.

## Monsanto Purchases Five More Seed Companies!

ETC Group's report includes a table listing many of the world's top 20 seed companies and their acquisitions and/or subsidiaries.

**IMPACT:** With control of seeds and agricultural research held in fewer hands, the world's food supply is increasingly vulnerable to the whims of market maneuvers. Corporations make decisions to support the bottom line and increase shareholder returns - not to insure food security. Ultimately, seed industry oligopoly also means fewer choices for farmers. A new study by the US Department of Agriculture examines the impact of seed industry concentration on agbiotech research. The study concludes that reduced competition is associated with reduced R&D. Despite seed industry claims to the contrary, concentration in the seed industry is resulting in less innovation - not more.

**PLAYERS:** A fistful of transnational firms, the Gene Giants, dominates global seed sales. Monsanto, Dupont, Syngenta - all among the world's top-ranking

pesticide firms - lead the pack.

**POLICY:** Seed industry concentration is already high on the agenda of civil society and farmers' organizations that are working to support and maintain peasant and farmer-controlled seed systems and against policies and technologies that seek to further privatize seeds. The implications of seed industry consolidation for food security and biodiversity must also be urgently addressed by governments at the FAO biennial Conference in November and by the Conference of the Parties (COP8) to the UN Convention on Biological Diversity (20-31 March 2006, Curitiba, Brazil).

## World's Top 10 Seed Companies + 1 [Based on 2004 seed sales (US) millions]

1. Monsanto (US) + Seminis pro forma \$2,803
2. Dupont/Pioneer (US) \$2,600
3. Syngenta (Switzerland) \$1,239
4. Groupe Limagrain (France) \$1,044
5. KWS AG (Germany) \$622
6. Land O' Lakes (US) \$538
7. Sakata (Japan) \$416
8. Bayer Crop Science (Germany) \$387
9. Taikii (Japan) \$366
10. DLF-Trifolium (Denmark) \$320
11. Delta & Pine Land (US) \$315

Download the Full Report

<http://www.etcgroup.org/documents/Comm90GlobalSeed.pdf>

*This GMO news service is underwritten by a generous grant from the Newman's Own Foundation, edited by Thomas Wittman and is a production of the Ecological Farming Association [www.eco-farm.org](http://www.eco-farm.org)*

<http://www.organicconsumers.org/monsanto/genegiants090805.cfm>



## Continued from page 9 – Breaking the Law of Life

renounce the patenting of life and put an immediate moratorium on genetic engineering.

*Andrew Kimbrell is an activist attorney in Washington DC and President of the International Centre for Technology Assessment. He is the author of The Human Body Shop and The Masculine Mystique.*

From Resurgence Magazine

<http://resurgence.gn.apc.org/articles/kimbrel.htm>



---

# Monsanto Buys 'Terminator' Seeds Company

By F. William Engdahl

September 30, 2006

"For almost a quarter century, since 1983, the US Government has quietly been working to perfect a genetically engineered technique whereby farmers would be forced to turn to their seed supplier each harvest to get new seeds. The seeds would only produce one harvest. After that the seeds from that harvest would commit 'suicide' and be unusable."

The United States Government has been financing research on a genetic engineering technology which, when commercialized, will give its owners the power to control the food seed of entire nations or regions. The Government has been working quietly on this technology since 1983. Now, the little-known company that has been working in this genetic research with the Government's US Department of Agriculture-- Delta & Pine Land-- is about to become part of the world's largest supplier of patented genetically-modified seeds (GMO), Monsanto Corporation of St. Louis, Missouri.

Relations between Monsanto, Delta & Pine Land and the USDA, on closer scrutiny, show the deep and dark side of the much-heralded genetic revolution in agriculture. It proves deep-held suspicions that the Gene Revolution is not about 'solving the world hunger problem' as its advocates claim. It's about handing over control of the seeds for mankind's basic food supply--rice, corn, soybeans, wheat, even fruit, vegetables and cotton--to privately owned corporations. Once the seeds and their use are patented and controlled by one or several private agribusiness multinationals, it will be they who can decide whether or not a particular customer--let's say for argument, China or Brazil or India or Japan--whether they will or won't get the patented seeds from Monsanto, or from one of its licensee GMO partners like Bayer Crop Sciences, Syngenta or DuPont's Pioneer Hi-Bred International.

While most of us don't bother to reflect on where the corn in the box of Kellogg's Corn Flakes or the rice in a box of Uncle Ben's Converted Rice come from, when we grab it from the supermarket shelf, they all must originate with seeds. Seeds can either be taken by a farmer from the previous season's seeds, and planted to produce the next harvest. Or, seeds can be bought new each harvest season, from the companies which sell their seeds.

The advent of commercial GMO seeds in the early 1990's allowed companies like Monsanto, DuPont or Dow Chemicals to go from supplying agriculture chemical herbicides like Roundup, to patenting genetically altered seeds for basic farm crops like corn, rice, soybeans or wheat.

There has been much hue and cry, correctly so, that this process, patented 'suicide' seeds, officially termed GURTs (Genetic Use Restriction Technologies), is a threat to poor farmers in developing countries like India or Brazil, who traditionally save their own seeds for the next planting. In fact, GURTs, more popularly referred to as Terminator seeds for the brutal manner in which they kill off plant reproduction possibilities, is a threat to the food security as well of North America, Western Europe, Japan and anywhere Monsanto and its elite cartel of GMO agribusiness partners enters a market.

## The Curious History of Delta & Pine Land

Delta & Pine Land is a company that, despite the pine in its name, has deep roots. Founded in 1888, it has its headquarters in Mississippi, near the Arkansas border. However, the people running things at Delta Pine are anything but your typical Mississippi black-dirt cotton farmers, beginning more than two decades ago.

In 1983, Delta & Pine Land (D&PL) joined with the US Department of Agriculture in a project to develop Terminator seeds. It was one of the earliest experiments with GMO. It was a long-term project. The US Government has been serious about Terminator beginning more than two decades ago.

In March 1998 the US Patent Office granted Patent No. 5,723,765 to Delta & Pine Land for a patent titled, Control of Plant Gene Expression. The patent is owned jointly, according to Delta & Pine's Security & Exchange Commission 10K filing, 'by D&PL and the United States of America, as represented by the Secretary of Agriculture.'

The patent has global coverage. To quote further from the official D&PL SEC filing, 'The patent broadly covers all species of plant and seed, both transgenic (GMO-ed) and conventional, for a system designed to allow control of progeny seed viability without harming the crop'(sic).

Then, in a manner reminiscent of Big Brother in George Orwell's novel, 1984, D&PL claims, 'One application of the technology could be to control unauthorized planting of seed of proprietary varieties, by making such a practice non-economic since non-authorized saved seed will not germinate, and, therefore, would be useless for planting.' D&PL calls the thousand-year-old tradition of farmer-saved seed by the pejorative term, 'brown bagging' as though it is something dirty and corrupt.

*Continued on page 15*

---

### ***Continued from page 14- Monsanto Buys Terminator Seeds***

Translated into lay language, D&PL officially declares the purpose of its Patent No. 5,723,765, Control of Plant Gene Expression, is to prevent farmers who once get trapped into buying transgenic or GMO seeds from a company such as Monsanto or Syngenta, from 'brown bagging' or being able to break free of control of their future crops by Monsanto and friends. As D&PL puts it, their patent gives them 'the prospect of opening significant worldwide seed markets to the sale of transgenic technology in a variety crops in which crop seed currently is saved and used in subsequent seasons as planting seed.'

Instead, the farmer or the country whose farmers depend on Monsanto patented GMO seeds must pay a license fee to Monsanto each year to get new seeds. 'No tickee, no laundry,' as the old Brooklyn poet would say.

Terminator is the answer to the agribusiness dream of controlling world food production. No longer would they need to hire expensive detectives to spy on whether farmers were re-using Monsanto or other GMO patented seed. Terminator corn or soybeans or cotton seeds could be genetically modified to 'commit suicide' after one harvest season. That would automatically prevent farmers from saving and re-using the seed for the next harvest. The technology would be a means of enforcing Monsanto or other GMO patent rights, and forcing payment of farmer use fees not only in developing economies, where patent rights were, understandably, little respected, but also in industrial OECD countries.

Sound far-fetched? Go back to what then-Secretary of State Henry Kissinger did in countries like Allende's Chile to force a regime change to a 'US-friendly' Pinochet dictatorship by withholding USAID and private food exports to Chile. Kissinger dubbed it 'food as a weapon.' Terminator is merely the logical next step in food weapon technology.

The role of the US Government in backing and financing Delta & Pine Land's decades of Terminator research is even more revealing. As Kissinger said back in the 1970's, 'Control the oil and you can control entire continents. Control food and you control people.'

In a June 1998 interview, USDA spokesman, Willard Phelps, defined the US Government policy on Terminator seeds. He explained that USDA wanted the technology to be 'widely licensed and made expeditiously available to many seed companies.' He meant agribusiness GMO giants like Monsanto, DuPont or Dow. The USDA was open about their reasons: They wanted to get Terminator seeds into the developing world where the Rockefeller Foundation

had made eventual proliferation of genetically engineered crops the heart of its GMO strategy from the beginnings of its rice genome project in 1984.

USDA's Phelps stated that the US Government's goal in fostering the widest possible development of Terminator technology was 'to increase the value of proprietary seed owned by US seed companies and to open up new markets in Second and Third World countries.'

Under WTO rules on free trade in agriculture, countries are forbidden to impose their own national health restrictions on GMO imports if it is deemed to be an 'unfair trade barrier.' It begins to become clear why it was the US Government and US agribusiness which during the late 1980's pushed at the GATT Uruguay Round for creation of a World Trade Organization, with its supranational arbitrary powers over world agriculture trade. It all fits into a neat picture of patented seeds, forced on reluctant WTO member nations, under threat of WTO sanctions, and now of Terminator or suicide seeds.

A closer look at who runs and owns Delta & Pine Land is instructive.

**For the rest of the story...**

<http://www.globalresearch.ca/index.php?context=viewArticle&code=ENG20060827&articleId=3082>



## **The Ultimate War Crime: Breaking the Agricultural Cycle**

**January 25, 2005**

*For the record: "U.S. declares Iraqis can not save their own seeds"*

"As part of sweeping "economic restructuring" implemented by the Bush Administration in Iraq, Iraqi farmers will no longer be permitted to save their seeds, which include seeds the Iraqis themselves have developed over hundreds of years. Instead, they will be forced to buy seeds from US corporations. That is because in recent years, transnational corporations have patented and now own many seed varieties originated or developed by indigenous peoples. In a short time, Iraq will be living under the new American credo: "Pay Monsanto, or starve."

"The American Administrator of the Iraqi CPA (Coalition Provisional Authority) government, Paul Bremer, updated Iraq's intellectual property law to 'meet current internationally-recognized standards of protection'. The updated law makes saving seeds for next year's harvest, *Continued on page 16*

---

**Continued from page 12 – Insects Thrive on GM Crops**

They fed resistant larvae of the diamondback moth - an increasingly troublesome pest in the southern US and in the tropics - on normal cabbage leaves and ones that had been treated with a Bt toxin. The larvae eating the treated leaves grew much faster and bigger - with a 56 per cent higher growth rate.

They found that the larvae "are able to digest and utilise" the toxin and may be using it as a "supplementary food", adding that the presence of the poison "could have modified the nutritional balance in plants" for them.

And they conclude: "Bt transgenic crops could therefore have unanticipated nutritionally favourable effects, increasing the fitness of resistant populations."

Pete Riley, food campaigner for Friends of the Earth, said last night: "This is just another example of the unexpected harmful effects of GM crops.

"If Friends of the Earth had come up with the suggestion that crops engineered to kill pests could make them bigger and healthier instead, we would have been laughed out of court." It destroys the industry's entire case that insect-resistant GM crops can have anything to do with sustainable farming."

Patrick Holden, director of the Soil Association, said it showed that GM crops posed an even "worse threat to organic farming than had previously been imagined". Breeding resistance to the Bt insecticide sometimes used by organic farmers was bad enough, but problems would become even greater if pests treated it as "a high-protein diet".

<http://organic.com.au/news/2003.03.30/>



**Continued from page 15 – The Ultimate War Crime**

practiced by 97% of Iraqi farmers in 2002, and is the standard farming practice for thousands of years across human civilizations, to be now illegal. Instead, farmers will have to obtain a yearly license for genetically modified (GM) seeds from American corporations. These GM seeds have typically been modified from seeds developed over thousands of generations by indigenous farmers like the Iraqis, and shared freely like agricultural 'open source.'"

**Iraq law Requires Seed Licenses November 13, 2004**

"According to Order 81, paragraph 66 - [B], issued by L. Paul Bremer [CFR], the people in Iraq are now prohibited from saving seeds and may only plant seeds for their food from licensed, authorized U.S. distributors. The paragraph states, "Farmers shall be prohibited from re-using seeds of protected varieties or

any variety mentioned in items 1 and 2 of paragraph [C] of Article 14 of this chapter."

Written in massively intricate legalese, Order 81 directs the reader at Article 14, paragraph 2 [C] to paragraph [B] of Article 4, which states any variety that is different from any other known variety may be registered in any country and become a protected variety of seed - thus defaulting it into the "protected class" of seeds and prohibiting the Iraqis from reusing them the following season. Every year, the Iraqis must destroy any seed they have, and repurchase seeds from an authorized supplier, or face fines, penalties and/or jail time."

<http://globalresearch.ca/articles/KHA501A.html>



## 'Gene Repair' Breakthrough - Scientists Turn Albino Mice Black

November 28, 1998

WASHINGTON (AFP) - U.S. researchers using genetic engineering have turned albino mice black, giving hope to sufferers of hereditary diseases caused by genetic mutation, the review Nature Biotechnology reported in its latest edition out Monday. The research team led by Kyonggeun Yoon at Philadelphia's Thomas Jefferson University succeeded in turning several all-white mice black by an experimental "gene repair" technique that fixes a genetic mutation, the review reported. The technique corrects a single alteration, or mutation, in a gene responsible for skin color in mice.

The defective gene failed to produce an enzyme involved in making melanin, the agent which changes the colour of skin. "Melanin-producing cells become normal, changing albino to black," said Yoon. "Once the mutation is corrected, it takes five or six days for the entire biochemical process to begin producing melanin."

Researchers established that the gene correction was permanent and inheritable. The work holds promise for some sufferers of hereditary diseases caused by genetic mutation, Nature Biotechnology said. The technique was developed several years ago and centers on directing the body's natural system of DNA repair through a mechanism that finds anomalies in DNA and fixes them. Yoon's team said the gene-repair technique has yet to be perfected. "Skin is an ideal organ on which to test this technology since it is accessible and can be monitored," said Yoon, but "much more research is needed to improve the design and make this technology generally applicable."

<http://www.rense.com/ufo2/miceblack.htm>



### FEATURED ARTICLES

## Melanin and Bio / Nanotechnology

Nakato Lewis

**Blackherbals at the Source of the Nile, UG Ltd.**

**October 2006**

*Mumia, a powder derived from dried Egyptian mummies, was one of the most valued commodities on the apothecaries' shelves. Believed to contain powerful, mystical cures for many diseases, the demand for mumia in 17th-century Europe was so great that it was impossible to supply it. As a result, medical charlatans grew wealthy selling fake mumia, made from the remains of recently executed prisoners. In addition, the oils and resins used in embalming the body were so potent, that the mummies sold to doctors in Europe distilled the dressings for use in their medicines. Embalming was one of the principal uses of aromatherapy, preserving the tissue of the bodies for thousands of years - Empirics, Quacks, and Alternative Medical Practices*

Nanotechnology is the science of manipulating matter, such as black materials, sometimes smaller than 100 nanometers and taking advantages of the properties, such as electrical conductivity, that is present only at that level. A nanometer is one-billionth of a meter, or about one-millionth the size of a pin head. The prefix comes from "nanos," the Greek word for dwarf. Nanotechnology has been around for several decades, but only now is its potential starting to be realized. Medicine is expected to be only one of the fields to benefit most from the technology.

One of the first things we learn in science class is that there are three states of matter, gas, liquid and solid. All black materials belong to the solid state and follow its laws. Black materials are present in the entire universe and are of great interest for the evolution of our planet and living systems. They are present in the lithosphere as minerals, graphite, black shale, fullerenes; in the hydrosphere as black particles in seas, lakes and rivers; in the atmosphere as soot and smoke; in cosmos as fullerenes and cosmids; and in the universe as black holes. In the biosphere, black matter is better known as

the melanin (black pigment) molecule, in all its forms. The chemical element carbon is the basis of most life on this planet and is also black in colour.

Melanin constitutes a class of pigments, which are widespread in humans, animals and vegetables. While the name melanin in Greek means black, not all melanin as pigments are black but may vary from brown to yellow. It belongs to a family of unique and very stable black substances that is present throughout nature and the universe.

#### **Physical characteristics of black materials and melanin**

But even before we learn about the different states of matter, we learn that matter cannot be created or destroyed, only rearranged. One of the physical characteristics of black materials is the ability to rearrange its chemical structure to absorb all energy across the radiant energy spectrum. Reflected energy is white light, i.e. from the sun, in the visible range whereas absorbed energy is black in colour. Melanin absorbs light energy, sound energy and electromagnetic energy. Melanin has many other interesting properties too, such as ultraviolet absorption, where it is currently being utilized in the preparation of UV-absorbing optical lenses and in cosmetic creams.

The colours of melanin are those of a pure semiconductor. As with other black materials, such as graphite and fullerenes, this state is subject to changes by doping with other materials. All black materials, including melanin, show a remarkable affinity for metals and exhibit the ability to form charge-transfer complexes, which can carry either a positive or a negative charge. Melanin can conduct electricity without offering resistance to the flow of electricity. This means that melanin has super-conducting capabilities. It also behaves like an insulator in that it will not allow electrical current to pass through its structure, similar to rubber and plastic insulators. The added ability of melanin to undergo polymerization is of great interest in Industry for its nano-technological use in bio-plastics and biopolymers.

*Continued on page 18*

---

### ***Continued from page 18 - Melanin***

Melanin also displays what is called threshold switching (an on/off switch), which means it can function as a bio-mechanical regulator of biological functions. Of even greater interest to the scientific community is its use in the genetic engineering of pharmaceutical drugs for specific diseases and other microbial applications using nanotechnology. For example, two research laboratories at the Savannah River Site in the US are undertaking a study to better understand how scientists can encourage certain bacteria to produce more of a type of melanin, a pigment similar to the one that makes humans' skin darker, which could be used to clean up metals and radionuclides (radiation particles) in the environment.

This is called bioremediation, the use of living things, such as microbes or plants to clean up environmental contamination. Melanin has been shown to accelerate the rate at which microbes transform metals and radionuclides in the soil. Researchers hope to stimulate the bacteria to produce more melanin by providing them certain nutrients, which in turn, could speed up the rate at which metals and radionuclides currently in the environment are detoxified or immobilized.

In another example, experiments on mice have shown promise for the future of nanotechnology in treating cancer. The technology being tested involves a nanoparticle of a hydrogen and carbon polymer with bits of drug bound up in its fabric and attached to a substance that hones in on cancer cells. By successfully treating prostate cancer tumour in mice, this research brings doctors one step closer to being able to inject patients with nanoparticles that bore inside tumours and release powerful doses of cancer-killing drugs while leaving the rest of the body untouched. However, one major problem scientists were having in perfecting the blood injection is that the nanoparticles are ending up in the liver and spleen – an unwanted side effect because once they dissolve in those organs, they release toxic levels of chemotherapy to healthy tissue.

### **Melanin in Human physiology**

African physiology is based on the melanin biochemical molecule. Melanin is a unique life chemical found in high concentration in people of African descent. In addition to providing pigmentation to hair, skin and eyes, melanin is incorporated into all major systems and vital organs in the body, bringing control of all bodily systems under the central nervous system, the body's information network. It is in the nervous system, the spinal cord, the glands, the brain, the DNA, the muscles, intestines, the heart, blood and the liver. Its presence can be found throughout nature and is also found in many of our foods.

As a free radical scavenger or oxygen scavenger, melanin has additional anti-toxin characteristics and as such, can serve as a terminator of free radical chain reactions. As a free radical scavenger, melanin plays an important role in preserving cells from the toxic effects of oxygen (antioxidant effect) and is generally present at the site of tissue repair, regeneration of cuts and wounds, and infectious diseases. Melanin also increases the speed of nerve and brain messages which are transmitted between the left and right hemispheres of the brain and all signals transmitted throughout the bodily nerve network. Melanin can bind and release many of the known elements that are essential for proper body metabolism. It readily crosses the blood-brain barrier, and is therefore useful as a carrier for other therapeutic agents that must reach brain tissue to produce their therapeutic responses. A variety of drugs, such as chloroquine, cocaine, heroin, amphetamines, etc., were designed to have a high affinity for melanin.

In the past, western medicine considered melanin a waste product of human metabolism, serving no useful function in the body. Modern science has since discovered that the melanin molecule, like other black materials to which it is related, is very old, very refined, complex, multifunctional, biochemical polymer having a wide variety of important functions within the human body and throughout nature.

Earlier scientific studies elucidating human biochemical structures never took into account the importance of melanin in the human body. Therefore, early medical and pharmaceutical determinations based the physical, neurological and metabolic responses of animals, in the treatment of disease, only on white or albino animals as a means of extrapolating the mean response of humans to laboratory-produced drugs, chemicals and pesticides. Consequently, the physiological, metabolic and neurological differences in the biological makeup of black people were not included in those studies. This is one of the reasons why western medicine does not work adequately in melanated people and the reason why we suffer so many side-effects from these substances. Race-based medicine, now being developed by the pharmaceutical industry, is based on synthetic and genetically-engineered drugs, chemicals, food and now, melanin.

Naturally-occurring melanins include eumelanins, phaeomelanins, neuromelanins and allomelanins (plant-based). Colours in humans are determined chiefly by two types of melanin, eumelanins and phaeomelanin. Eumelanins are derived from the precursor, tyrosine, generally insoluble and black or brown in colour. Phaeomelanins have tyrosine and cysteine as their precursors, are generally alkali-soluble and much lighter in colour. Under the microscope melanin is brown, non-refractile and finely granular with individual granules,

*Continued on page 19*

---

**Continued from page 18 - Melanin**

having a diameter of less than 800 nanometers.

Melanins are polymers produced by polymerization of reactive intermediates. The reactive intermediates are produced chemically or enzymatically from precursors consisting of smaller chemical species in varying amounts, such as tyrosine, tryptophan, glutamate, phenylalanine, serotonin, melatonin, dopamine, norepinephrine (noradrenaline), and epinephrine (adrenaline). The term melanin includes naturally-occurring melanins, which are usually high molecular weight polymers (generally, molecular weights in the millions).

Naturally-occurring melanin is formed through natural biochemical pathways. One is diet, involving the amino acids phenylalanine and tyrosine. Phenylalanine is a dietary chemical that comes from red meat and soya. It is a melanin precursor, which can raise blood pressure. Another pathway for natural melanin production involves the use of the neurotransmitters, epinephrine and norepinephrine. Melanin production is intimately involved with the neural system (neuromelanin) because tyrosine and phenylalanine are also precursors for the neurotransmitters epinephrine, norepinephrine and dopamine.

The metabolic pathway, for the production of melanin from amino acid building blocks, finds maximal presence in those cells that have a high demand for those products, the brain. Brain cells have high levels of tyrosinase because there is a high demand for dopamine. The enzyme, tyrosinase plays a key role in the syntheses of melanins and its derivatives. The substantia nigra, the region of the brain where the concentration of melanin is very high, is noted for cells with high levels of tyrosinase. Insufficient amounts of this enzyme causes melanin deficiencies in some humans. The gene for human tyrosinase has been isolated, genetically sequenced and cloned.

Currently, melanin is being produced synthetically or isolated from natural sources. Natural sources include beef eyes, squid, hair, bacteria such as Streptococcus antibioticus and E. coli, and the human brain, among others.

**Benefits and Risks**

With the use of genetic engineering and nanotechnology, melanins, its precursors and its derivatives are being synthetically produced and patented with predictable molecular weights, particle sizes, and compositions. Consequently, melanins can now be attached to antibodies and thus targeted for specific cells (e.g. liver cells). Melanin has a number of properties, which can be exploited to alter both cellular

metabolism and/or remove or introduce intra- and intercellular toxins. Such properties include oxygen and free radical scavenging, metal binding, binding of organic cationic species, catalysis of coupled reduction-oxidation reactions. These properties are not interdependent, and melanin can be selectively altered and optimized. Drugs can be covalently bound to melanin or just adsorbed on its surface. They can be attached in such a manner that induces cellular metabolism at the target cell and cause release of the therapeutic agent.

Other therapeutic uses of bio-synthetic melanin are: 1) to treat melanin deficiencies; 2) to prevent neurodegenerative diseases of the nervous system caused by exposure to toxic agents; and 3) to assist in the recovery of neurons, injured as a result of direct injury or disease. In fact, the therapeutic uses of melanin and its derivatives stated above have already been patented in the U.S. In fact, there are a number of patents on the process of genetically-engineered melanin production using genetically-engineered microorganisms. In addition, nanoparticles of melanin can enter human cells as well as the soil, trigger chemical reactions and interfere with normal biological and ecological processes. These synthetic nanoparticles can readily cross the skin-blood-brain barrier, which should be of major concern to people of colour. The technology is suitable for bioterrorism.

The United States is the world leader in nanotechnology but is not paying enough attention to the environmental, health and safety risks posed by nanoscale products, says a report released by the independent National Research Council. At least 50 harmful effects can be attributed to genetically modified and engineered entities. About 300 consumer products on the shelves already contain nanoscale ingredients, including several foods and many cosmetics, with little or no research to document their safety. The industry is expected to be worth about \$2 trillion by 2014. The quacks are at it again.



**Continued from page 11 – African Spirituality**

Bwoba oyagala okulaba ebifananyi bye kyamagero omulundi ogwo kubiri ku mukutu, kyalira <http://www.whitebuffalomiracle2.homestead.com>. Ekiwandiko kino osobola okuddamu kukikuba kubwerere oba ngofunye olukusa okuva eri omuwandisi yesigarizza obuyinza era n'ekiwandiko kisigara mu mitendera emirungi mukusasanyizibwa kwakyo.

Stefania M. Schwartz, omu wandisi wa freelance, osobola okumufuna ku mukutu [SilvrDrach@gmail.com](mailto:SilvrDrach@gmail.com).

Translation by Nabulya Joy -

---

## Mission Statement

Our aim at **The African Traditional Herbal Research Clinic** is to propagate and promote the awareness in Afrikan peoples at home and abroad of their health, biodiversity, history and cultural richness. We gather pertinent information on these issues and disseminate these freely to our people in Uganda, the rest of the continent, and anywhere in the Diaspora where Afrikans are located.... One of the main ingredients for increasing poverty, sickness, exploitation and domination is ignorance of one's self, and the environment in which we live. Knowledge is power and the forces that control our lives don't want to lose control, so they won't stop at anything to keep certain knowledge from the people. Therefore, we are expecting a fight and opposition to our mission. However, we will endeavor to carry forward this work in *grace and perfect ways*.

***“Where there is no culture, there is no indigenous knowledge. Where there is no indigenous knowledge, there is no history. Where there is no history, there is no science or technology. The existing nature is made by our past. Let us protect and conserve our indigenous knowledge.”***



## CALENDAR OF EVENTS

### SPECIAL EVENT: CLINIC OPENING

PLACE: AFRIKAN TRADITIONAL HERBAL RESEARCH CLINIC

TIME:

**Afrikan Traditional Herbal Research Clinic**  
**1175A Mukalazi Road, P.O. Box 29974**  
**Bukoto, Kampala, Uganda East Africa**  
**Phone: 041 530 456**  
**Email: clinic@blackherbals.com**

ADDRESS CORRECTION REQUESTED

## Herb of the Month

### THE ALOE PLANT

Aloe is an amazing plant with a wide ability to aid in the healing process, to protect, moisturize, and even extend life. It was used in ancient times for medicinal purposes, and its relevancy has not diminished today. It is indigenous to south and east Africa, but has flourished around the world in environments ranging from forests to rock faces. Aloe has been called the "plant of immortality" because it can live and bloom without soil. It was given as an offering at the funerals of pharaohs and used in the baths of Egyptian queens. Generally used in the treatment of burns, Aloe vera is a cellular regenerator and has anti-tumour, anti-bacterial and anti-fungal effects. One of the minerals contained in the plant, magnesium lactate is listed as an itch inhibitor, bringing relief to insect bites, acne, sunburns, rashes, and other topical conditions. Aloe contains active compounds that stop pain and inflammation and stimulate skin growth and repair. Studies suggest that active substances in **aloe leaf extracts** (which contain both aloe gel and aloe latex) may have immunostimulant and anti-cancer effects. **Aloe gel** contains active substances known as glycoproteins and polysaccharides. Glycoproteins are protein-carbohydrate compounds that speed the healing process by stopping pain and inflammation. Polysaccharides are a type of carbohydrate that stimulates skin growth and repair. These substances are also thought to stimulate the immune system. **Aloe latex** contains compounds known as anthraquinones that stimulate the activity of the gastrointestinal tract. **Oral aloe** has been advocated to heal gastrointestinal ulcers, treat AIDS, lower blood sugar in patients with diabetes, treat and prevent cancer, and lower blood lipid levels.



BULK RATE	
US POSTAGE	
PAID	
PERMIT	No.
00000	

Mailing Address  
Street Number and Name  
City, Country, etc.