Food Safety & Sustainable Agriculture Forum 2014, Beijing
July 25-26, 2014

Responsible institution: China Development Strategy Research Society
Organizer: China Development Strategy Research Society Committee of Cultural Strategy
Undertaking Unit: Yunnan Financial & Economics University Social & Economics Behavior Research Center

Location: Dao Xiang Chun Hotel, Haidian District, Beijing

Attendees from abroad include: genetic researchers, university professors, medical doctors, veterinaries, animal farmers, farmers, farming consultants, food safety activists, moms of children, NGO founders and leaders, social activists etc. from China and Taiwan area, U.S.A, Russia, U.K., France, Denmark, Germany, Australia, Argentina, Brazil and Peru.

The forum was attended by over 300 participants from different government departments, institutions and circles in China, including two well-known generals drawing special attention:

Major general Peng Guang-qian, author of "Eight Questions to Genetically Modifying Staple Food", and lieutenant general Mi Zhen-yu, former vice president of China Academy of Military Science and author of "Must Face The Harm Caused By Imported Genetically Modified Soybeans To Health And Safety Of The 1.3 billion Chinese people" (http://t.cn/8skNH8S).

Following the forum, people read a news paper "Must Hunt Down To Its Source The Illegally Grown Genetically Modified Rice" jointly authored by Peng and Mi published by the Global Times on August 1, the Army Day!
(http://opinion.huanqiu.com/opinion_china/2014-08/5092770.html **)**

The Forum included the keynote presentations and four sessions:

1) Keynote presentations
2) GMOs Bound With Glyphosate
3) Life Science Principles & GM Technology
4) Grass-root Calls
5) Agriculture Sustainable Development

BEIJING DECLARATION: The forum concluded with the BEIJING DECLARATION through clapping at the end of the forum.

BEIJING DECLARATION
July 26, 2014
(English translation from the Chinese document)

We are a gathering of scientists and agricultural practitioners from 13 countries and regions and 5 continents, who have just attended the Food Safety & Sustainable Agriculture Forum 2014 in Beijing, China.

The experience in the cultivation and consumption of GMO, and the definitive scientific facts and analysis presented, have led us to the conclusion that arguably GM technology does not increase production yield. On the contrary, this has led to the increase in the application of pesticides, causing calamitous damage to the ecosystemupon which the survival of humankind depends.

The commercial application of GM technology in agriculture for the last two decades has exposed the entire planet and the very existence of humankind to serious

threats.

We unanimously condemn the GM vested interests in usurping the right of the human race to use natural seed resources for its sustainable survival and development. Whilethe undeniable evidence of the dangers of GMO is exposed, the facts have been denied and suppressed, the media have been manipulated in order to freely expand the production of GMOs, and the global crisis has been pushed to new heights.

We believe that scientific research must be subordinate to the welfare and long term development of humankind, and should never be the tools to profit a few persons or interest groups. Agricultural production is the basis for human survival. To protect agricultural production and the earth,our home base, we hereby call upon all people with a conscience to:

1. Stop all commercial production of agricultural GMOs, and strictly prohibit theproliferation of GMOs outside laboratories.
2. Open public discussion and stop suppressing dissenting views and independent scientific research to ensure public knowledge and expression. Increase scientific research on the negative effects of GM technology.
3. Protect bio-diversity, return the rights to own and utilize seeds to the cultivators and the people, and fight against seed monopoly. Protect people's freedom to acquire safe food and object to food monopoly and hegemony of a few commercial enterprises.
4. Call for a rational and sustainable mode of agriculture to return it to Mother Nature.

Mankind has no retreat confronting the threats brought about by the overall proliferation of GM products. Let us take up the holy responsibility and take joint action to protect the health and survival of the human race!

Keynote Presentations
Morning, July 25 2014

Convenor: Yun Shan, China Development Strategy Research Society
Committee of Cultural Strategy
Prof. Gu Xiu-lin, Yunnan Financial & Economics University Social & Economics Behavior Research Center

Speakers, presentation and sequence

1. Dr. Hans R. Herren, President Millennium Institute, Germany
Founder & Chairman of Biovision Foundation

Title: Agriculture beyond the Green Revolution: Shaping the Future We Want

Abstract:

The International Assessment of Knowledge, Science and Technology for Development (IAASTD) provides the backdrop for this 1st International Forum on Food Safety and Sustainable Agriculture 2014, making the point that a transformation of agriculture and the food systems across the globe is needed to address the issues

that the world is facing in terms of long term food and nutrition security and safety. It is by far not enough to continue with the reductionist approach championed through the green revolution to assure sufficient, safe and nutritious food for the decades ahead. The existential problems that are affecting agriculture are mostly self inflicted, this not being restricted to the industrial agriculture model, which is strongly dependent of external inputs, but as well the more traditional practices, which often are mining the natural resources, thus not sustainable either. Part of the problem is short term thinking, profit orientation, technology and consumer driven. The huge pre and post retail wastage of food, added to the pre harvest losses would more than make up the extra food needed by 2050. Today farmers around the world do produce enough food for some 14 billion people, while still , according to the latest count of some 850million are hungry. The one billion obese and over 300 million diabetes type II people are further proof that its the system that is in need of an overhaul. The recognition that consumer food consumption behavior is closely linked to the production patterns is leading to new measures to tackle that end of the system's transformation. Change is now becoming a reality thanks to the wording in the Rio+20 declaration, which makes the case for a transformation of the agriculture and food systems, supported by national multistakeholder systemic and holistic assessments that will inform new and transformative policies.

2. ***Elena Sharoykina, National Association for Genetic Safety (NAGS), Russia***

Title: GMOs in Russia: Current situation and independent scientific research results

zemlya2010@gmail.com

Introduction

Elena Sharoykina, ecologist, director and co-founder of National Association for Genetic Safety (NAGS)

NadezhdaNovoselova, journalist, public and media relations director of National Association for Genetic Safety (NAGS)

NadezhdaNovoselova: oagb.ru@gmail.com

Abstract

In 2010, NAGS released results of an independent study on the impact of GMOs on the mammals health. The experiment was held on the base of the Institute of Ecology and Evolution of Russian Academy of Sciences on NAGS grant. The study results shown a significant negative impact of feed containing GM ingredients on reproductive functions and health of laboratory animals.

ABOUT NAGS: National Association for Genetic Safety (NAGS) is russian non-profit organization, founded in 2004. NAGS's activities are aimed to contribute the protection of biological and genetic safety of humankind and the environment, and to promote sustainable development ideas in human consciousness.

GMOs: Since its foundation NAGS has had a great influence on the development of public debate concerning the safety of modern biotechnology, including GMOs, in Russia.

In 2008 NAGS in partnership with the Institute of Ecology and Evolution of A.N. Severtsov of Russian Academy of Sciences has conducted its own independent research on the impact of GMOs on the health of mammals. During the experiments hamsters, which were fed with GM soybean meal, were unable to reproduce a third

generation of offspring.

In 2013 NAGS announced the start of preparation for the first international long-term study on the influence of GMOs on animals' health. The experiment will involve scientists from around the world. A working science group has been formed and the research protocol is ready. The experiment will take place in Russia. NAGS and its partners are going to launch a fundraising campaign to attract independent funding for the experiment very soon.

SUSTAINABLE DEVELOPMENT： In 2012 NAGS launched a separate project - environmental initiative "Emerald Planet". Its mission is to promote and realize the ideology of sustainable development. The projects' programs are aimed at the popularization of ideas of waste recycling, responsible consumption, efficient use of natural resources, development and implementation of new ecology technologies in all areas of industry and everyday life.

FOOD SAFETY： Since 2004 NAGS has implemented the project "Public control of the grocery market". NAGS conducts annual independent monitoring of food quality to defend interests of russian consumers. NAGS experts have found serious violations in foods from well-known russian and foreign manufacturers: dangerous bacteria and microorganisms, unauthorized food additives, genetically modified organisms (GMOs) without labeling in baby food etc. Such violations could cause serious health problems. NAGS has repeatedly confirmed the validity of its independent reviews in court, responding to complaints from leading russian and international manufacturers.

ORGANIC AGRICULTURE： NAGS supports the idea of the priority development of organic agriculture in Russia. NAGS's experts take part in creating legislative initiatives for the ecological agriculture system in Russia and makes recommendations for the russian authorities on the issue. NAGS pays special attention to the preservation of Russian agricultural breeds and varieties.

3. Mae-Wan Ho, Scientist, Science,
Artificial vs Natural Genetic Modification & Perils of GMOs

The precision, complexity, and all-pervasiveness of natural genetic modification leave organisms and ecosystems particularly vulnerable to artificial genetic modification. Genetics has been gturned upside down beginning the late-1970s and especially since the human genome was announced in 2000. The tools of genetic manipulation have advanced by leaps and bounds.

Today, geneticists can dissect and analyse the base sequence of one nuclear acide in a signle cell using 'next generation deep sequencing'.

The genome is fluid and dynamic. It is constantly conversing with the enrionment in circular networks that mark and change genomic DNA in myriad ways. Both DNA and RNA take part in executing and altering genetic information in real time, and in transmitting genertic information to future generations.

Natural genetic modification: The totality of changes made by organisms in the genetic information of tissues and cells as part of their survival strategy, some of which are passed on to future generations. The new genetics tells us that organisms need to engage in natural genetic modification in order to survive; artificial genetic modification interferes fundamentally with the natural process, and it is well-nighj impossible to avoid doing so.

4. Dr. Medardo Avila Vazquez, Pediatrician and Neonatologist
Coordinator **Red Universitaria de Ambiente y Salud**
Médicos de Pueblos Fumigados, Córdoba City, Argentina
www.reduas.fcm.unc.edu.ar

mavilavazquez@reduas.com.ar
+54 9 351 5915933

Title: Using Glyphosate with GMO Seeds in Argentina

Summary:

Toxic Agriculture and Crop-Sprayed Towns (Agricultura Tóxica y Pueblos Fumigados)

Over the last 20 years, the agricultural border has expanded by almost 50%, moving onto regions intended to other productions, over territories with family farming and massively over forests.

The ton (T) of soy which was listed at u$s 160 in 2001, in July 2012 was worth u$s 600, the average yield is from 3 to 4 T/hectare (ha), production costs are 200-250 u$s/ha: profitability is enormous. From a total of 300.000 existing farmers nationwide, 80.000 are engaged in transgenic and chemical agriculture; but from those only 20.000 account for 70% of the production and are basically corporations and agricultural conglomerates which produce by renting fields or trespassing the lands of peasants and native peoples[1].

The prevailing agriculture is sustained on a monoculture agribusiness model using a technology package that includes direct sowing, transgenic seeds, and the application of pesticides. Within this framework, as a consequence of the natural unworkability of monoculture and in order to sustain the production, increasing amounts of agrochemicals are applied in an area where GM crops coexist with more than 12 million people.

We must recognize that the "products" used are all poisonous: herbicides like glyphosate, 2.4D or Atrazine, are designed to kill plants, and Endosulfan, Chlorpyrifos, dimethoate, Cypermethrin, imidacloprid, etc. are designed to kill insects and are the most widely used; they all have deleterious effects on human health and pollute the environment.

The use of these pesticides has been increasing exponentially since 1990: back then, 30 million kg/l of poisons were used, during the 2012/2013 crop season more than 318 million liters were applied. On the same hectare where 2 or 3 liters of Glyphosate were used per year, today 8 or 12 liters are used and 1,5 liters of 2.4D are added per year. In Santiago del Estero, Salta and Chaco (north-western Argentina) up to 20 liters/ha/year of Round Up[2] are used.

To grow 100 ha of GM soy today, 14 working days are required with a single (only one) worker. During those days, one day will be for sowing, another for harvesting 100 ha. and the remaining 12 days will be for applying poisons over the same field. That is the "productive" activity carried out by the toxic agriculture system.

Birth defects and increasing cancer

After 18 years of systematic sprayings, health teams in fumigated towns detect a change in the pattern of diseases in their populations: respiratory problems are much more common and are linked to the application of agricultural poisons, just like chronic dermatitis. Similarly, during fumigation time, epileptic patients convulse much more frequently and depression, immune and endocrine disorders are more frequent.

High rates of miscarriages are recorded (up to 23% of women of reproductive age had at least one abortion in the last 5 years) and consultations for infertility in men and women have significantly increased[3]. The herds of goats from farmers and indigenous people in some areas record up to 100% of abortions or premature deaths due to malformation and linked to pesticide exposure. Increased thyroid disorders and diabetes are also detected.

More and more children are born with defects in these areas, especially if the first months of pregnancy coincide with the time of sprayings. Down syndrome, myelomeningocele, congenital heart disease, etc. are diagnosed more frequently in these areas; in some towns and during some years they triple the normal rates, and are directly linked to increased pesticide applications around these towns[3,4].

Crop-sprayed towns also show a change in the causes of death. According to data from the civil records offices to which we had access, we found that over 30% of people who die in these towns die from cancer, while nationwide the percentage is less than 20%. Cancer death rates clearly increased in these areas, and this is a new phenomenon detected by our colleagues since the year 2000 and not observed before[3,4,5]. Interestingly, the date coincides with the expansion in the usage of glyphosate and other agrochemicals that are massively applied in the area. Recently (May 2014), the Ministry of Health of the Province of Cordoba published data from its cancer registry, confirming that in the most intensively agricultural areas the deaths due to cancer exceed by 100% those in the city, and by 70 % the provincial average[6].

The chemical aggression affects everyone, but it is the poor people, the laborers, their wives and children, who are the least likely to protect and recover their health. Also, in the North of Cordoba and Santa Fe, most new ventures of toxic agriculture are carried out by corporations and agricultural conglomerates that mostly use air fumigation, and poison doses are much higher due to the climatic and biological conditions in the region; mainly indigenous peoples and peasants suffer the

consequences.

Scientific evidence

The clinical manifestations that physicians working in the crop-sprayed towns observe in our patients find their biological causation on the results of scientific research in experimental models with various pesticides, including glyphosate. Thus, the research from our scientists shows in what way glyphosate acts upon the embryonic development producing birth defects[7], and how this poison damages DNA molecules in the cell nucleus, promoting mutant cell lines that will cause cancer if they cannot be eliminated by the individual[8,9,10].

Also, a number of scientific papers worldwide show how exposure to toxic agrochemicals significantly increases the rate of birth defects, miscarriages, cancer, and hormonal disorders in people subjected to repeated sprayings[11,12,13,14].

Even the highest standard of critical analysis of the scientific and medical information, the Systematic Reviews of Evidence-Based Medicine, support the need to reduce this exposure on account of having enough strong and consistent evidence to recognize that exposure to pesticides increases the risk of affecting human health[15,16,17].

Despite all complaints presented, the use of toxic agrochemicals in our country is continuously increasing. In 1990, according to data from the business chambers of toxic agrochemicals, 39 million liters/kilos of agrochemicals (herbicides, insecticides and fungicides) were used; in 2013, the same chamber reports that its business nearly reached u$s3000 million with the sale of 318 million liters/kilos. Glyphosate is the most commonly used toxic agrochemical in Argentina, comprising 64% of total sales, and 200 million kg/l of glyphosate were applied during the last crop season[2].

In usage studies conducted by agronomists from the Sociedad Rural Argentina (Rural Society, the main soy-business institution in the country)[18], in 2010 in the core area (main agricultural area) almost 10 liter-kilos of pesticides were applied per hectare per year, which is equivalent for the study area to 31 liters of agricultural poisons for each of the residents of the Department concerned (Gral. Lopez in Santa Fé). In Argentina, we estimate that 7 liters-kilos of pesticides are applied for each of the 40 million inhabitants (per year), but in the productive areas of agribusiness these toxic dose rise between 30 to 45 liters-kilos per person per year, generating a cumulative load of

chemical aggression inevitably reflected in the hardest health indicators such as the causes of death.

Rethinking scientific postulations for bio-technology and safety

The model of agricultural production in Argentina, led by international biotechnology companies, has generated a 858% increase in the amount of pesticides used per year, resulting in an massive environmental and health impact in the region.

This increase in the use of toxic agrochemicals does not correlate with an increase in cultivated areas: between 1990 and 2010, the area growing cereals and oilseeds increased by 50%, i.e. it increased from 20 million hectares to 30 million hectares, which does not explain the 858% increase in the use of toxic agrochemicals (the use on fruit and vegetable crops and regional crops such as vine, tobacco and sugar account for less than 15% of total usage)[2].

The premise establishing that transgenic seeds use fewer toxic agrochemicals cannot be verified in Argentinean reality. In 1996/7, the time when transgenic soybean began to be sown, 3 lt per ha per year of glyphosate were applied; currently the applied amount of glyphosate adds up to 12 lt for the same area and for the same time period. This shows the inability of the toxic agricultural model to face the adaptation responses of nature, such as the emergence of resistance in plants and insects. The only immediate answer is increasing the poison dose used per ha (selling more pesticides to farmers), both herbicides and insecticides, and adding more dangerous toxic agrochemicals to the mixtures used to fumigate, or adding an accumulation of transgenic "events" so that plants permanently secrete several Bt insecticidal toxins.

Another myth related to the biotech industry is that it increases crops yields. However, the number of independent scientific studies proving this a lie is growing more and more. An increase in grain production (cereal and oilseed) is admitted, but these researches show that the increase in yields per hectare (ha) is related to the application of traditional agricultural techniques incorporated during the last 20 years, such as the growth in density of plants per surface unit (less separation between plants in the furrow and between furrows), etc.[19,20]. In Argentina the average yield in 1994 was 2,2 T per ha, and 3 T in 2010; that is an average increase of 30% in crop yields[2]… yet during this period we used 858% more poisons for agricultural purposes. Something is not right.

Comparing the use of toxic agrochemicals in millions of kg/l per year, with the

increase of cultivated areas in millions of hectares and the increase in yields in tons per ha, we find that the 858% increase in the toxic agrochemicals market does not correlate with the 50% increase in cultivated areas, nor with the 30% increase in crop yields per hectare.

The inefficiency of the biotechnology used is evident in the environmental damage created by the massive clearing of the country; the increasing pollution that is observed along all surface watercourses in the region, such as the Suquia[21] and Paraná rivers in its entirety (data in press); in the levels of glyphosate collected in rainwater from soy-growing areas (data in press) exceeding by 10 times those detected in USA[22]; in the increasing rate of cancer, birth defects, miscarriages, mental disabilities, endocrine and immune disorders suffered by rural populations systematically exposed to increasing doses of toxic agrochemicals every year; and in the growing load of pesticide residues in grains exported from Argentina, as has already been verified in Denmark and the Netherlands, where as of 2015 the purchase of organic soybeans and corn to feed their livestock will be prioritized[23,24].

Increasing pesticide residues in foods made with grains impregnated with these agricultural poisons are a growing concern in Europe, and its dangerousness has become evident especially after investigations by the French researcher Eric Seralini. Recently, the presence of glyphosate in urine was detected in students from the University of Berlin and other European people from 18 different countries, and which was less high in the followers of "organic" diets; in cattle and rabbits similar results were verified: a higher amount of glyphosate in urine and tissues from those fed with GM fodder[25].

In light of the problems caused by the resistance of weeds and insects, the answer from the biotech industry (Monsanto, Bayer, Dow, Dupont, etc.) is to provide more of the same. New transgenic seeds are promoted, which are resistant to glyphosate, glufosinate and 2.4D (and soon to paraquad); in a few years the results will be similar regarding the levels of pesticide residues in grains: higher and higher.

Seeds are also promoted, which resist several herbicides while producing Bt toxins, such as Cry1A.105, Cry2Ab, Cry3Bb, and which, for now, offer protection against lepidoptera and coleoptera but damage a great amount of insects which are beneficial and useful for preserving the ecological balance. There are no certainties as to the safety of these toxins in humans.

For 100.000 years our species was in contact with minimum amounts of these toxins, but now, thanks to biotechnology, we are exposed to massive amounts of these proteins which have been found in human breast milk, in human blood and in the blood of the human umbilical cord, and we also know that they produce immune and allergic risks to people[26], but probably their toxic consequences will be much higher when we start seeing the results of this new exposure within a few years.

Nature does not reinvent the wheel. When it finds a way of doing things, they will be repeated throughout the entire evolution. Indiscriminately attacking weeds, insects or rodents with toxic chemicals is equal to attacking ourselves. Today we know that 40% of the genes of the human genome are shared with plants and regulate our cellular activities quite like plants do, we also know that 60% of the genes of insects are in our genetic code. That is to say, we share with insects and plants many of the familiar mechanisms of cellular metabolism. We can attack heavily these mechanisms with chemicals, lock them, distort them, to generate the death of plants or insects, but we cannot ignore that if these toxic products reach people, either through occupational exposure, residential exposure or by ingesting food or water contaminated with residues, inevitably that will create adverse effects on them, we cannot presuppose that they are harmless.

For years we've known, by performing radioisotope studies, that the flow of matter through our body is very fast. We know that our skin cells are new in less than 5 weeks, that the cells of the mucous membrane live less than 1 day, that our skeleton is renewed in a year. Brain cells do not reproduce, but its internal molecular structure is completely renewed several times a year. The flow of oxygen, carbon, hydrogen and nitrogen atoms through our body is very fast; only the heavier atoms of iron, magnesium and copper delay this exchange, but 98% of the atoms from tissue and cells are completely replaced within a year. This continuous flow of matter between our body and the environment is steady; if levels of environmental pollution grow the collective health will be increasingly difficult to maintain.

References

1- Centro de Investigación en Economía Política y Comunicación. Universidad Nacional de La Plata. **Reportaje Ingeniero Agrónomo Alberto Lapolla**. Entrelíneas de la Política Económica Nº13. Sep 2008.
http://sedici.unlp.edu.ar/bitstream/handle/10915/15345/Documento_completo.pdf?sequence=1
2- University Network for Environment and Health - Physicians of Crop-Sprayed Towns. **The use of toxic agrochemicals in Argentina is continuously increasing.** Dic 10/2013
http://www.reduas.fcm.unc.edu.ar/the-use-of-toxic-agrochemicals-in-argentina-is-continuously-inc

reasing/
3- University Network for Environment and Health - Physicians of Crop-Sprayed Towns. **Report from the First National Meeting of Physicians in the Crop-Sprayed Towns.** Oct 7/2011. http://www.reduas.fcm.unc.edu.ar/report-from-the-first-national-meeting-of-physicians-in-the-crop-sprayed-towns/
4- **Argentina, Santa Fe: Estudio vincula fumigaciones con enfermedades en los pueblos.** Argenpress. Ago 5/2013.
http://www.argenpress.info/2013/08/argentina-santa-fe-estudio-vincula.html
5- **En los pueblos fumigados, el 30% de las muertes son por cáncer. Nueva Región**
http://www.nuevaregion.com/index.php?option=com_content&view=article&id=21325:en-los-pueblos-fumigados-el-30-de-las-muertes-son-por-cancer&catid=1:medio-ambiente&Itemid=368
6- **Cáncer en Córdoba: en el este provincial, la mortalidad más alta.** May 29/2014. La Voz del Interiror: http://www.lavoz.com.ar/interactivo/el-mapa-del-cancer-en-cordoba
7- Paganelli A, Gnazzo V, Acosta H, López SL, Carrasco AE. **Glyphosate-based herbicides produce teratogenic effects on vertebrates by impairing retinoic acid signaling**. Chem Res Toxicol. 2010 Oct 18;23(10):1586-95. doi: 10.1021/tx1001749. Epub 2010 Aug 9.
8- Mañas F, Peralta L, Raviolo J, Ovando HG, Weyers A, Ugnia L, Cid MG, Larripa I, Gorla N. **Genotoxicity of glyphosate assessed by the comet assay and cytogenetic tests**. Environ Toxicol Pharmacol. 2009 Jul;28(1):37-41. doi: 10.1016/j.etap.2009.02.001. Epub 2009 Feb 11.
9- Simoniello MF1, Kleinsorge EC, Scagnetti JA, Mastandrea C, Grigolato RA, Paonessa AM, Carballo MA. **Biomarkers of cellular reaction to pesticide exposure in a rural population**. Biomarkers. 2010 Feb;15(1):52-60. doi: 10.3109/13547500903276378.
10- Lopez SL, Aiassa D, Stella Benıtez-Leite S, Lajmanovich R, Mañas F, Poletta G, Sanchez N, Simoniello MF, Carrasco AE. **Pesticides Used in South American GMO-Based Agriculture: A Review of Their Effects on Humans and Animal Models**. *Advances in Molecular Toxicology, Vol. 6* Amsterdam: The Netherlands, 2012, pp. 41-75.
11- Schreinemachers DM. **Birth malformations and other adverse perinatal outcomes in four U.S. Wheat-producing states.** Environ Health Perspect. 2003 Jul;111(9):1259-64.
12- Winchester PD, Huskins J, Ying J. **Agrichemicals in surface water and birth defects in the United States.** Acta Paediatr**.** 2009 Apr;98(4):664-9.
13- . Settimi L, Spinelli A, Lauria L, Miceli G, Pupp N, Angotzi G et al. 2008**. Spontaneous abortion and maternal work in greenhouses**. Am J Ind Med 51(4):290-295
14- Clapp RW, Jacobs MM, Loechler EL. **Environmental and occupational causes of cancer: new evidence 2005-2007** Rev Environ Health. 2008 Jan-Mar;23(1):1-37.
15- Sanborn M. Bassil K. Vakil C. Kerr K. **Systematic Review of Pesticide Health Effects.** Department of Family Medicine, McMaster University. Ontario College of Family Physicians. 2012. http://ocfp.on.ca/docs/pesticides-paper/2012-systematic-review-of-pesticide.pdf?sfvrsn=6
16- Sanborn M, Kerr KJ, Sanin LH, Cole DC, Bassil KL, Vakil C. **Non-cancer health effects of pesticides: systematic review and implications for family doctors**. Can Fam Physician. 2007 Oct;53(10):1712-20.
17- Bassil KL, Vakil C, Sanborn M, Cole DC, Kaur JS, Kerr KJ. **Cancer health effects of pesticides: systematic review.** Can Fam Physician. 2007 Oct;53(10):1704-11.
18- **El departamento G. López lidera el consumo de agroquímicos provincial**. Jun 28/2010. La Capital:

http://www.lacapital.com.ar/la-region/El-departamento-G.-Loacutepez-lidera-el-consumo-de-agroquiacutemicos-provincial-20100628-0016.html
19- Dr. David Quist. **Evaluando la contribución de los rasgos genéticamente modificados al rendimiento de los cultivos**. GenØk – Centro de Bioseguridad, Noruega. publicado oct 7/2011. http://www.reduas.fcm.unc.edu.ar/evaluando-la-contribucion-de-los-rasgos-geneticamente-modificados-al-rendimiento-de-los-cultivos-%C2%BFadopcion-o-alternativas-para-la-politica-agricola/
20- Dr. Doug Gurian-Sherma. **Failure to Yield: Evaluating the Performance of Genetically Engineered Crops.** Union of Concerned Scientists. USA. Mar 2009. http://www.reduas.fcm.unc.edu.ar/wp-content/uploads/downloads/2011/07/failure-to-yield-brochure-UCS.pdf
21- Bonansea RI, Amé MV, Wunderlin DA. **Determination of priority pesticides in water samples combining SPE and SPME coupled to GC-MS. A case study: Suquía River basin (Argentina).** Chemosphere. 2013 Feb;90(6):1860-9. doi: 10.1016/j.chemosphere.2012.10.007.
22- Chang FC, Simcik MF, Capel PD. **Occurrence and fate of the herbicide glyphosate and its degradate aminomethylphosphonic acid in the atmosphere.** Environ Toxicol Chem. 2011 Mar;30(3):548-55. doi: 10.1002/etc.431. Epub 2011 Jan 19.
23- **GM soy linked to health damage in pigs - a Danish Dossier**. GM Watch. http://www.gmwatch.org/files/GM-Soy-linked-to-health-damage-in%20pigs-a-Danish-Dossier.pdf
24- **Kræft får ikke landbruget til at droppe sprøjtet soja.** Politiken: nov.1/2011. http://politiken.dk/indland/ECE1436886/kraeft-faar-ikke-landbruget-til-at-droppe-sproejtet-soja/
25- Krüger M, Schledorn P, Schrödl W, Hoppe HW, Lutz W, Shehata AA. Detection of Glyphosate Residues in Animals and Humans. J Environ Anal Toxicol 2014,4:2 http://dx.doi.org/10.4172/2161-0525.100021
26- Aris A, Leblanc S. **Maternal and fetal exposure to pesticides associated to genetically modified foods in Eastern Townships of Quebec, Canada**. Reprod Toxicol. 2011 May;31(4):528-33. doi: 10.1016/j.reprotox.2011.02.004. Epub 2011 Feb 18.

Session 1: Harm of Glyphosate & GMO
Afternoon, 25th July 2014

Convenor: Chen I-wan, Advisor, Committee of Disaster History to China Disaster Prevention Association; Advisor.
Chai Wei-dong, Author, Unrestricted Chemical And Biological Warefare, China Development Publishing House, 2011

Speakers, presentation and sequence

(1) (USA) Dr. Don M. Huber:
Presentation Title: Impact of GMO-herbicide interactions on nutrition and soil, crop, and animal health.

Email: huberd@purdue.edu; US (208) 615-1710.

Introduction

Dr. Don M. Huber, Professor Emeritus of Plant Pathology at Purdue University, holds B.S. and M.S. degrees from the University of Idaho (1957, 1959), and a Ph-D from Michigan State University (1963). He was Cereal Pathologist at the University

of Idaho for 8 years before joining the Department of Botany & Plant Pathology at Purdue University in 1971.

His agricultural research the past 55 years has focused on the epidemiology and control of soilborne plant pathogens with emphasis on microbial ecology, cultural and biological controls, the physiology of host-parasite relationships and herbicide-nutrient-disease interactions.

Dr. Huber is past Chairman of the USDA-APS National Plant Disease Recovery System (program), a member of the APS Threat Pathogens Committee; and former member of the Advisory Board for the Office of Technology Assessment, U.S. Congress. In addition to these assignments, he is an active scientific reviewer; consultant to academia, industry, and government; and international research cooperator with active projects in various countries as well as the U.S.

Dr. Huber is author or co-author of over 300 scientific journal articles, Experiment Station Bulletins, book chapters and review articles; 3 books, and 84 special invited publications.

He is internationally recognized for his scientific expertise in the development of nitrification inhibitors to improve the efficiency of N fertilizers, interactions of the form of nitrogen, manganese and other nutrients in disease, techniques for rapid microbial identification, and cultural control of plant diseases.

Abstract

Dr. Huber will explain why what we now see in our soils, crops, barns, and environment is not normal. Accepting responsibility for our situation can heal the damage which has been thrust upon us through a betrayal of the public trust that was based on the failed promises and flawed science of genetically engineered crops, and the glyphosate herbicide most GM plants are engineered to tolerate. It is critical that we respond to the growing challenge we face if we are to provide the abundance of affordable, nutritious and safe food necessary for society to flourish in a sustainable manner.

(2) (USA) Robert Allen Streit

Presentation Title #1 Deleterious Effect of Glyphosate on Crops in the U.S. Midwest

Presentation Title #2 Soil remediation for fields polluted by agchemicals

(Note: Presentation #2 moved to Session 4: Sustainable Agriculture

Email: bastreit@gmail.com

Introduction

Iowa. Graduated from Iowa State University with degrees in Plant Pathology, Pest Management and Agronomy.

He began his professional career working as a crop consultant for four years with the country/s largest consulting firm. Then moved back to Iowa and worked for twenty years as a tech service agronomist with DeKalb Genetics and the Cargill Mycogen Seed groups. This work enabled him to gain experience and knowledge interacting with the country's experts in soil fertility, pest management, plant pathology, weed science and genetics, then transferring that knowledge to individual growers on their farms and in educational meetings. He was also involved in work with some of the first transgenic work on herbicide and insect resistant plants, so understands that science very well. During this time he was also involved in his family's farming and livestock operation.

He moved back into the private Ag consulting field working with individual producers in setting up their crop management program. He has also been involved with several companies in testing their new products and determining how they work and where they fit. This includes several soft pesticides and pest control strategies plus implementation of high yield and foliar fertilizer techniques. Some of that work involved working with fertility and disease management specialists in the US/South America on aerobiology and on the US Rust Task Force. This was with the top scientists and producers in several South American and European countries. It has involved working with several researchers to head efforts to control insects and

diseases plus affect plant architecture/physiology using biologicals, soft pesticides in multi-year strategies. Also on tap with Mr. Streit are several private projects where innovative biological fertilizers and polymers boosting fertilizer/pesticide efficiency are being tested and introduced. In recent years he has been involved with many innovative scientists and practitioners in learning and teaching how poor soil health affects food quality and human health. This has led him into several areas of soil remediation research which is expected to be a major curative topic in the future.
Besides his consulting work Bob writes a weekly newspaper column and helps author articles in several publications. He and his wife live outside Ames, Iowa on an acreage where they produce many garden and fruit crops. They enjoy many activities including those with their six grown children and several grandchildren. All but one of their children have graduated from college with several holding advanced degrees.

Presentation Title #1 Deleterious Effect of Glyphosate on Crops in the U.S. Midwest
Abstract #1

The first Genetically Modified crops and traits were developed to help manage serious insect and weed problems. In Zea maize the problem insect was the European corn borer (*Ostrinia nubilalis*) which was accidentally imported from Europe on loads of broom corn during WW 1. In parts of the U.S. there could be as many as three to four generations of insect per growing season, which could lead to a seventy five percent loss in yield as well as major field losses due to collapsed stalks. The crop in which most U.S. farmers had a difficult time in managing weeds was soybean, as it was a poor competitor to many of the weeds present in the 1990s. Herbicide companies were continually introducing new herbicides to try to combat such problematic weeds, but either new variations of weeds moved into the soybean growing territory or the weeds developed resistance to the different chemistries.

Adoption of the new transgenic crops was rapid. Many university spokesmen and members of the media were courted by the major biotech seed firms to extol the virtues of the new varieties. Everything seemed good except for a few cases where animal reproduction problems surfaced or endemic weed populations were resistant to glyphosate. After about ten years more of the problems appeared, but very few researchers or crop advisors were either able to confirm the problems in their own trials or were able to learn about the widespread nature of the problems as nearly every university or magazine had been threatened by the Bio-Tech firms with loss of advertising dollars of libel suits.

Finally Dr. Toshi Yamada of the Univ. of Piricicaba, Sao Paulo State, Brazil sponsored a 2007 conference where select scientists from N. America, Europe, and S. America quietly met to discuss the problems with transgenic crops and the use of

glyphosate on such a wide scale. The findings presented and published woke up many crops people who correlated those scientific findings with the problems they were seeing of hearing about in their respective countries. It opened the door and researchers in many countries were wondering if the inserted traits, promoters, or herbicide contaminants were the cause of the many crop, animal and human health problems that began appearing.

That research and recognition of the problem expanded greatly since the Piricicaba conference. There has also been a huge increase in problems associated with use of the insect and herbicide traits, heavier use of the herbicides, and an increase in the glyphosate levels in food and drink. The incidence of chronic diseases, decreased birth rates, GI tract disorders, birth defects, and overall poor health of animals, humans, and crops has increased greatly since 2009. Observant and honest Ag professionals recognize more of these every year. Those beholding to the Bio-Tech dollars see the problems but have a vested interest in denying the link between their genetic manipulations and publicly decry the link between the genetic manipulations and overuse of glyphosate and resulting health problems.

The overall problem is one of lack of education about proper mineral nutrition in growing crops and of lack of follow through in correlating this nutritional shortfall with chronic and acute problems. How do we as Ag professionals and teachers get this message across and work to develop solutions? Do certain Ag firms benefit by perpetuating the failed systems and exaggerating the problems? Have they tried to export the problem into other countries where innocent people are affected? Those are ideas we hope to discuss and propose solutions for. The problem is very real and demands action.

(3) (USA) Howard R Vlieger

Presentation Title：What is the Motivation

Email: studentofthesoil@gmail.com

Introduction

Howard Vlieger is a third generation family farmer who has been a “student of the soil,” studying why and how the soil works as it does, since 1989. Howard lives on the family farm where he was born and raised in northwest Iowa, and assists his son with some of the farming duties. Since 1992 Howard has been a crop and livestock nutrition adviser. He has founded two companies to help family farmers reduce their dependency on chemical- based farming and transition to biological and/or organic crop production. Howard works and teaches as an independent crop

nutrition advisor, helpingcrop and livestock farmers all across the US.

Howard works with scientists and researchers around the world to develop effective solutions, based on the latest science, for the real-life problems farmers are experiencing because of GMO crops and glyphosate. Howard is a co-author and the primary coordinator of a first of its kind scientific study: the feeding of GMO grain and non-GMO grain to hogs for their lifetime as a meat animal. Howard is an internationally recognized speaker on the topic of GMOs.

“It is an amazing opportunity to be a caretaker of the soil. The good Lord made an amazing creation when He created the soil. It is a true joy to continue the never ending learning experience of working with all of the biological and elemental components of the soil to produce a clean,high-quality, nutritious food for all deserving families to eat. It is an even greater privilege to work with family farmers to help them gain a better understanding of crop and livestock production (nature’s way) to produce premium quality food.”

Howard serves on the board of directors for the Farm and Ranch Freedom Alliance (FARFA) and the Council for Healthy Food Systems (CHFS). His greatest accomplishment is that of being a Christian husband to his wonderful wife Pamela of 33 plus years, a father of 3 young adult children and proud grandfather of one.

Abstract：

An example of the potential dollars of technology fees collected by GMO seed

companies annually in North America. What adverse problems have we witnessed in livestock that consume GMO crops that lead up to conducting the pig study. What anecdotal problems did we see in the pig study (Dr. Judy Carman talk about the scientific results of the pig study). What is the BIGGER picture relative to GMOs. Close the talk by demonstrating the fact that the pharmaceutical and chemical companies are one in the same.

(4) (Australia) Judy Carman

Presentation Title: A long-term toxicology study on pigs fed a combined GM soy and GM maize diet

Email: judycarman@ozemail.com.au

Introduction

Dr Judy Carman has a Batchelor of Science, an Honours Degree in Organic Chemistry, a Ph.D. in Medicine in the field of nutritional biochemistry and metabolic regulation, and a Master of Public Health specialising in epidemiology and biostatistics.

She taught chemistry, biochemistry, epidemiology, research methods and biostatistics over many years at various tertiary institutions, including an agricultural college and Adelaide and Flinders Universities.

She has worked in the fields of human nutrition and nutritional

biochemistry (including at the CSIRO), HIV/AIDS in Sydney, national injury surveillance, and analysing data from Divisions of General Practice. She was the Senior Epidemiologist in the Communicable Disease Control Branch of the South Australian Department of Human Services, investigating outbreaks of disease in the state, including food-borne, mosquito-borne, zoonotic and pneumonia from *Legionella* species. She led a multi-state study into whether Rabbit Calicivirus could infect people. She has been Adjunct Associate Professor in Health and the Environment, School of the Environment, Flinders University, South Australia. She is the Director of the Institute of Health and Environmental Research, based in South Australia.

She has advised parliamentarians, government and non-government organisations and industry bodies on various matters. She has also held senior positions in the Public Health Association of Australia (PHAA), including convening two national food conferences for it. She is recognised by the United Nations as an expert in the risk assessment of genetically modified organisms (GMOs). She has conducted one of the few long-term independent animal feeding studies into the safety of GM crops.

Collective work by：Judy A Carman[1*], Howard R Vlieger[3], Larry J Ver Steeg[4], Verlyn E Sneller[3], Garth W Robinson[5**], Catherine A Clinch-Jones[1], Julie I Haynes[6], John W Edwards[2]

1 Institute of Health and Environmental Research, PO Box 155, Kensington Park, South Australia, 5068, Australia.
2 Health and the Environment, School of the Environment, Flinders University, Bedford Park, South Australia, 5042, Australia.
3 Verity Farms, 4947 US 75 Avenue, Maurice, Iowa, 51036, United States.
4 Ana-Tech, 1111 16th Ave, Monroe, Wisconsin, 53566, United States.
5 Sioux Center Veterinary Clinic, 1253 North Main Avenue, Sioux Center, Iowa, 51250, United States.
6 Discipline of Anatomy and Pathology, University of Adelaide, Adelaide SA 5000, Australia.
* Email: judycarman@ozemail.com.au
** Present address: Robinson Veterinary Services PC, 752 Third Street Circle South East, Sioux Centre, Iowa, 51250, United States.

Abstract

A significant number of genetically modified (GM) crops have been approved to

enter human food and animal feed since 1996, including crops containing several GM genes 'stacked' into the one plant. Few of them have undergone long-term animal feeding studies.

We randomised and fed isowean pigs (n=168) either a mixed GM soy and GM corn (maize) diet (n=84) or an equivalent non-GM diet (n=84) in a long-term toxicology study for 22.7 weeks. Equal numbers of male and female pigs were present in each group. The GM corn contained double and triple-stacked varieties. Feed intake, weight gain, mortality and blood biochemistry were measured. Organ weights and pathology were determined post-mortem. There were no differences between pigs fed the GM and non-GM diets for feed intake, weight gain, mortality or routine blood biochemistry measurements. However, the GM diet was associated with gastric and uterine pathologies in pigs. GM-fed pigs had uteri that were 25% heavier (p=0.025) and a higher rate of severe stomach inflammation (32% of GM-fed pigs, 12% of non-GM-fed pigs,RR=2.6; p=0.004) than non-GM-fed pigs. Severe inflammation was worse in males (RR= 4.0; p=0.041) than females (RR=2.2; p=0.034).

(5) (USA) Arthur Grinnell Dunham

Presentation Title: Animal Issues Connected To Glyphosate

Email：cadunham@windstream.net

Introduction

Arthur Dunham DVM, ISU 1974, has been a large animal veterinarian in Delaware County, Iowa, for 40 years. He works with dairy, cow-calf, feedlot, and swine operations. He has a strong background in nutrition. The dairy and swine NRC nutrition guidelines helped support his diagnosis of manganese deficiency with its small ovaries in non-cycling cows and gilts. This discovery, confirmed with liver testing, led to the phone call to Dr. Don Huber in 2007, and the present interest in glyphosate.

Access to a plasma mass spectrograph in 2008 made it feasible to check more trace minerals. Dunham noticed that all hog livers submitted were very low in Cobalt (part of Vitamin B12). This led to work with a Canadian swine consultant who had confirmed Vitamin B12 deficiency in “squatter” fat hogs fed small grains dried down with glyphosate.

Clinical observations spur important questions. Dunham is a clinician and not a researcher, but he would like to see a multidisciplinary approach in both research and regulation.

Abstract:

We typically discuss how large animal veterinary medicine has changed over the past four decades as a result of changing animal feed regimens and cropping practices. These changes include a shift toward pesticide dependent GMO cropping systems, increased antibiotic use, and federal policies that discourage overall biological health. In our talk, we include a discussion of several pig and cow diseases that have become increasingly difficult to manage in the United States during the last two decades. We suspect that this is a result of chemicals that bioaccumulate in the food chain (from crop, to animal, and potentially to human)...Our talks include pictures in powerpoint format, as well as a Q and A or American Ag-trivia round, and optional book reading.

(6) (Denmark) Ib Borup Pedersen

Presentation Title: A changeover from GMO soy to NON-GMO “natural” soy, gave large health improvements, and a better Economy

Email: pilegaarden@dlgmail.dk

Introduction

Born: Nothern Jutland, Denmark.

Raised on a farm with cows, sows and bacon pigs. Educated in the Danish school system: 10 years. Beekeeper from the age of 11.

Farming education:

Bygholm Agricultural College, including practical training on 12 different farms, working with dairy cows, sows, bacon pigs, arable farms, plus farm maintenance and repair jobs.

Jobs include:

1987 Herdsman on Pig Breeding farm - DK;

1988 Pig Herdsman – DK; 1989 Arable farm –DK

1990-93 Arable / Dairy / Chicken farm – UK

1994-96 Pig Herdsman – DK

In 1996 we bought Pilegaarden, an arable farm with 112 hectares of land. In 1997 we built a 400 sow pig unit, From 2002 we rented another farm building to keep the weaners until 30 kg. In 2007 we extended our farm buildings, in order to have our entire herd in one place, i.e. 450 sows plus weaners, a mill room and grain store.

Abstract

After reading scientific literature on GMO's I discovered that scientists in many independent studies found infertility, deformed offspring, kidney, liver or other organ damage in test animals. Thus, I wondered if the GMO-soya I fed to my pigs could jeopardize their health, so I decided to do an experiment.

In April 2011 we changed from GMO soya to "natural" soya (NON-GMO) and saw big improvements in the herd's health, a 2/3 reduction in medicine usage and some sickness disappeared altogether. Production went up and profits increased. This has now been the case for the last 3 years.

The one experiment has become two experiments, as the deformities did not go away. I had expected that they would disappear when I stopped using Roundup Ready GMO soya, as research had shown a link between Roundup and deformities.

I decided to test the feed for Roundup-residues, (Glyphosate) I used the samples of soya I had stored from the loads of soya I had delivered (All in NON-GMO time) I also took tests of my own grains, in a way that I was able to tell exactly how much the feed was polluted with glyphosate.

After switching to NON-GMO soya I have taken pictures and videos of the deformed piglets and stored them in a freezer, as I thought that maybe they could be used in a study at some time.

When I compare the frequency of the deformed piglets, the fertility problems and abortions with Glyphosate levels in feed, I can see a clear correlation between levels of Glyphosate and the problems listed. Food, feces and urine samples of individual sows fed known levels of glyphosate in their diet and samples of my urine and my worker's urine, show that my urine is on par with sows that have consumed 0,2ppm (Grams / ton) glyphosate in their feed, suggesting that my food, bought in Danish shops, would likewise be contaminated. The sows have raised levels of fertility problems, abortions and deformities!

The Danish university in Aarhus has looked into my findings, and concluded that Glyphosate residues even in lower doses than allowed in feed and food can adversely affect the body's microflora and the availability of minerals, and through these effects explain my findings.

(7) (Germany) Monika Krueger

Presentation Title：Collateral damages of the herbicide glyphosate in dairy cows, current possibilities to neutralize this contamination

Email: mkrueger@vetmed.uni-leipzig.de; mk.tiermedizin@web.de

Introduction

Doctor of Veterinary Medicine with specialization in Bacteriology and Mycology

Former director of the Institute of Bacteriology and Mycology of the Veterinary Faculty of the University Leipzig (01.05.1993-30.04. 2014)

EDUCATION:

1954/66 - Primary & secondary school, Berlin GDR;

1966/71 - **Student** of Humboldt University, Department of Animal production and Veterinary Medicine;

1971 - **Diploma: "**Isolation of *Chlamydophila (Bedsonia) psittaci* in feces of

calves";

1971/72 -Practical assistance to get professional approbation;

Thesis A: "Artificial infections of calves with *Chlamydophila i psittaci*";

1982/84 - Postgraduate specialization for laboratory diagnostics;

Institute of Microbiology and Infectious Animal Diseases, Humboldt University, Berlin: **Thesis B** (equivalent to habilitation)**:** "Investigations to distribution of *Bordetella bronchiseptica* in pigs and small laboratory animals. Development of strategies to defense the infection by vaccination.

EMPLOYMENT HISTORY:

1972/76 - **Scientific-assistant**, Institute of Applied Veterinary Hygiene, Eberswalde;

Planning and organization of industrial pig farms including sanitation of cadavers.

1977/79 - **Junior Scientist,** Institute of Microbiology and Infectious Diseases, Berlin;

1979/93 - **Senior Scientist,** Institute of Microbiology and Infectious Diseases, Berlin;

1993 - **Professor of Bacteriology, Mycology and Defense of Infectious Diseases in Animals,** Veterinary Faculty, University of Leipzig.

1999-2003 – Vice president of University of Leipzig

MAIN SCIENTIFIC & PRACTICAL INTEREST: Bacterial and mycological diseases in animals, respiratory infections, gastrointestinal infections, immune system,

regulations of gastrointestinal flora in relation to prebiotics and probiotics, gastrointestinal flora and immune system, Clostridium associated infections of animals, especially *Clostridium botulinum* in relation to environmental influences like the herbicide glyphosate, its neutralization with humic acids and identification and control of C. botulinum associated diseases by vaccination, pre-and probiosis. Investigations to pathogen Clostridium spp. in biogas plants. About 80 papers and 1 book about bacteriology.

Presentation Title：Collateral damages of the herbicide glyphosate in dairy cows, current possibilities to neutralize this contamination

Author's Monika Krüger, Wieland Schrödl and Awad Shehata
Institute of Bacteriology and Mycology, Veterinary Faculty, University of Leipzig

Abstract

1. **Introduction**

From the middle of the 1990s unexplainable accumulations of chronic or visceral botulism cases in dairy cows occur in Germany (Böhnel et al. 2011). Usually clostridial infections are opportunistic or factor depended diseases. In cattle *C. botulinum* type C and D intoxications and toxicoinfections predominate, the last one is a new disease in Germany, not approved by governmental authorities, but with growing importance, and nevertheless the cows die. In former investigations it was detectable that only in dysbiotic feces and rumen fluids *C. botulinum* bacteria and/or neurotoxins could be demonstrated (Krüger et al. 2014). The reasons of these results were not explainable by available knowledge. Usually veterinarians, especially bacteriologists investigate the agent, not the circumstances, although they know, most clostridia are opportunistic bacteria. By accident glyphosate was mentioned. Its antibacterial activity (bacteriostasis) was mentioned in two patents, US 7,771,736,B2(2010) and EP 2 327 785 A2 (2011). Glyphosate is an amino phosphonic acid of the amino acid glycine. Being structural analogues of amino acids, amino phosphonic acids usually act as their antagonists and compete with their carboxylic counterparts for the active sites of enzymes or other cell receptors. As inhibitors of metabolic processes, they exert their physiological activity as antibacterial agents, neuron active compounds,anticancer drugs or pesticides, possible application of which range from medicine to agriculture. Amino phosphonic acids are enzyme inhibitors. Most of these enzymes are involved in the metabolism of amino acids (Kafarski and Lejzcak, 1991).

2. **Bacterial sensibility for glyphosate**

As shown in EP 2 327 785 A2 (2911) bacteria possess two categories of EPSP sythases, one is sensitive for glyphosate in micro molar concentration, the other one is tolerant until resistant. Lactobacilli, enterococci, bifidobacteria, some bacilli are sensitive but salmonelli, some *Clostridium* spp. like *C. tetani, C. perfringens, C. botulinum* are as far as possible resistant for glyphosate. Incorporation of glyphosate by feed leads to significant reduction of such health promoting bacteria like lactobacilli, enterococci, bifidobacteria, but to increasing of pathogen clostridia. Unfortunately a genus of important antagonists (*Enterococcus)* of *C. botulinum* belongs to glyphosate sensitive bacteria. In two papers (Shehata et al. 2012, Krüger et al. 2013) these results are shown. Glyphosate substitution of rumen fluids with a crude fiber rich diet (84%) leads to significant decrease of cellulytic bacteria and protozoa. The glyphosate substitution to rumen fluids with concentrate feed (40%) didn`t influenced the number of health promoting bacteria. In both cases pathogen clostridia significantly increased in relation to increased glyphosate concentrations (Ackermann, 2014). Already Fischer et al. (1986) detected negative effects of glyphosate on growth of *E. coli, P. aeruginosa*and *B. subtilis* due to inhibition of aromatic amino acids negatively feedback to shikimate pathway intermediates. In latest investigations Krüger et al. (2014, submitted) detected highly glyphosate resistance of ESBL enterobacteria.

3. Detection of glyphosate in urines, organs and tissues of dairy cows and other animals

Animal and humans incorporated glyphosate with feed or food excrete about 20-30% by urine. In urines of Danish and German dairy cows fed with GMO soy glyphosate was detected. The concentrations were different from farm to farm, but in conventional dairy cow farms all animals excreted glyphosate. Interestingly in GMO free regions of Germany significant lower or really zero glyphosate excretion was detected. Glyphosate was also detected in urines of humans, significant lower of persons with organic food and significant higher of persons with chronic diseases. The highest glyphosate concentrations were detected in urines of fattening rabbits. It was also possible to detect glyphosate in urines of hares in in organs and tissues of malformed piglets.

4. Collateral damages in dairy cows

The clinical picture of chronic botulism goes along with excessive loss of weight, movement disorders, flock stiff stilted gait, paresis, apathy, engorgedveins on tarsus, positive venous pulse, mucous saliva, reduced tailtonus, small wounds in the

udder region. Because of glyphosate is a chelator blood specimens of Danish and German dairy cows were investigated for trace elements (Zn, Mn,Co, Cu, Se). In nearly all Danish cows Mn and Zn levels were deeply below the reference levels. Mean Se, Cu and Zn values were in the reference range, but some cows were below the minimum level. The high GLDH values are explainable.

Interestingly therapy resistant downer cows had significant higher GLDH, CK, urea levels in blood serum, but significant lower cholesterol. Seemingly in cases of therapy resistant downercows glyphosate is involved.

5. Neutralization of glyphosate

According to Piccolo et al. (1996) we used humic acids to neutralize glyphosate. In *in vitro* and in field trials it was possible to neutralize glyphosate by humic acid WH67 (Gerlach et al. 2014). Excretion of glyphosate by urine was significantly reduced.

6. Conclusions

Contamination of feed with glyphosate influences gastrointestinal microbiota. The result is a dysbiosispromoting germination of *C. botulinum* spores and generation of neurotoxins. The chronic botulism is the result. Due to contamination of feed and food with glyphosate animals and humans are contaminated with glyphosate. Clinical diseases are only shown in long-living animals like dairy cows. Enzymes of liver and musclesare influenced. All investigated cows had lacks of trace elements, especially Zn and Co. Using of glyphosate based herbicides in agriculture have to be reduced medium term. In a long term other agricultural methods have to be developed to ban such toxic substances.

(8) (USA) Stephanie Seneff

Presentation Title：GM Roundup Ready Soy: Implications for Autism, Infertility and Parkinson's Disease

Email: seneff@csail.mit.edu

Introduction

Dr. Stephanie Seneff is a Senior Research Scientist at MIT's Computer Science and Artificial Intelligence Laboratory in Cambridge, Massachusetts, USA. She has a Bachelor's degree from MIT in biology with a minor in food and nutrition, and a PhD in Electrical Engineering and Computer Science, also from MIT.

She is an author of more than 150 peer-reviewed journal and conference proceedings papers. Until 2007, her research is mostly related to speech and natural language processing by computers.

Over the past several years she has focused on the application of computer science and natural language processing techniques to analyze the biology research literature and available online patient-provided prescription drug side effect reports and vaccine adverse reactions, and this effort has resulted in about a dozen recent papers published with international collaborators in medical and biological journals.

Her recent research has focused on understanding the effects of certain environmental toxicants -- especially aluminum and glyphosate -- on human physiology. She proposes that a low-micronutrient, high-carbohydrate diet, combined with excess exposure to environmental toxicants, and insufficient sunlight exposure to the skin and eyes, play a crucial role in many modern conditions and diseases, including heart disease, diabetes, arthritis, gastrointestinal problems, Alzheimer's disease and autism.

Together with Anthony Samsel, an expert on environmental toxicants, she has published two recent papers on the insidious adverse effects of glyphosate, the active ingredient in the pervasive herbicide, Roundup, on human health.

Dr. Seneff is a Fellow of the International Speech Communication Association (ISCA), and in 2012 she received the Integrity in Science Award from the Weston A. Price Foundation.

Abstract

Many health issues are increasing at an alarming rate in countries around the globe following the adoption of a diet predominantly consisting of processed foods derived from GM Roundup Ready corn and soy. In this presentation, I will provide evidence that the pesticide residues, particularly glyphosate, and the processing chemicals, particularly hexane, in soy foods are causative in the epidemics we are seeing in China in autism, infertility and Parkinson's disease. I will discuss how

glyphosate's known toxicological effects can account for many features in autism. I will present evidence that glyphosate disrupts bile flow, leading to toxic accumulation of metals like arsenic and manganese. Arsenic working synergistically with glyphosate is likely causing kidney failure among agricultural workers, whereas similar manganese dysbiosis is causative in Parkinson's disease. Hexane residue in processed soy products likely enhances glyphosate's toxicity due to a surfactant effect. I will present several graphs showing striking correlations among glyphosate usage, oil consumption, and various modern diseases and conditions. This study especially shows that adding *chemical extracted GM soybean oil and soybean protein powder* to infant formula milk powder products causes most serious harm to infants' health.

(9) Henry Rowland, UK

Title: **The Global GMO Free Coalition and Global Interest in Safety of Glyphosate-Based Herbicides**

（Presentation photo missing)

Email: horowlands@gmail.com

Introduction

Global GMO Free Coalition Coordinator and Director of Sustainable Pulse

(www.gmofreeglobal.org) (www.sustainablepulse.com)

Henry was brought up on a family run organic sheep farm in the Pembrokeshire National Park in Wales. His connection to both organic farming and the protection of the Welsh countryside led to a deep interest in issues related to GMOs and their related pesticides from a relatively young age.

One of the first GMO Free public pressure groups in the World – GM-Free Cymru- was co-founded by Henry's mother in the 1990s. GM-Free Cymru (GM Free Wales translated from Welsh) has successfully kept GM crops out of Wales to this day.

Following work as a Journalist in Bulgaria, Henry moved on to set up one of the World's most successful Sustainable Agriculture online news sources, which focuses on GMOs and pesticides. **Sustainable Pulse** now has a regular readership of over 200,000 people per month from over 115 countries.

Sustainable Pulse provides the general public with the latest global news on GMOs, Sustainable Food and Sustainable Agriculture from a network of worldwide sources.

Sustainable Pulse is also involved in a number of reference projects – all of which have the aim of educating the public on the possible harm caused by GMOs and their associated pesticides. These include GMO Evidence (www.gmoevidence.com), which is an online library of scientific research from around the World.

In 2014 Henry coordinated the formation of an expert group of leaders from across the World – creating the **Global GMO Free Coalition**.

The **Global GMO Free Coalition** brings together over 100 organizations from 6 continents with a total partner membership of over 4.5 million people.

The **Global GMO Free Coalition**'s (GGFC) intention is not to replicate the work of others, but to create partnerships that will enhance our collective influence.

Following the best practises of the Global Anti-Nuclear Movement, the Deep Sea Conservation Coalition and the Elders, the GGFC will provide much needed global coordination to counteract the misguided media arguments of the biotech industry regarding GE Crops and their associated pesticides.

The GGFC will also create real change, both in public and government circles, on the important issues surrounding GMOs, by putting the correct experts in the correct places at the correct times!

Abstract

a) How the Global GMO Free Coalition aims to change how GMOs and Pesticides are reported in the global Mainstream Media

b) How the Global GMO Free coalition aims to help independent experts reach the public with their information

c) Why women across the World should take notice of how much Glyphosate is found in their Breast Milk. Suggestions as to what action needs to be taken to protect women globally.

d) Report on the UK meeting of the All Party Agroecology Group (APPG) in the Houses of Parliament – 'Rounding up Glyphosate – is it really safe?'

(11) Gottfried Glockner, German Dairy farmer, Wölfersheim / Wetteraukreis / Hessen / Germany

(Presentation photo missing)

ggloeckner@t-online.de

Title: Bt Maize in Germany: Experience in Growth and Consumption

Abstract:

Symptoms

After feeding dairy cows with GM Bt corn feed: White / grey sticky diarrhea; Water accumulation in the joints; Udder edema; Blood vessel enlargement; Blood in the milk; Dry, brittle Udder- / teet skin; Cow mouth light pink; Cows very susceptible to illnesses; Unusually high number of deaths; Abnormalities with the animals.

Testing and analysis results:

After massive problems in the dairy herd, all feed was thoroughly tested:

-- Studies of the amino acids revealed variations in Bt 176 grain of minus 24%, in Bt 176 silage minus 8.8%, compared with conventional starting line;

-- Studies of Bt toxin revealed 8.300 ng/kg in silage after 1.5 years storage

-- Detection of RR and Bt constructs in milk

Development:

After stopping feeding with Bt corn silage, the herd improved.but the impact can be felt to this day !

Prospects:

-- No Bt corn cultivation since 2002

-- Bt 176 now has no valid permit for release into the environment

-- Bt176 isn`t substantially equivalent to conventional corn !

-- Questionable Safety Testing

-- Questionable License Approval Process

-- With manure spreading, Bt toxin was spread

-- Bt toxin found on pasture and grassland

-- Bt toxin also found in grass silage

-- Massive diarrhea symptoms in animals within 12h after grass consumption

Session 3: Life Science Principals & GMO Technology
Morning, 26th July 2014

Convenor: Yun Shan, China Development Strategy Research Society
Committee of Cultural Strategy
Prof. Gu Xiu-lin, Yunnan Financial & Economics University Social & Economics Behavior Research Center

Speakers, presentation and sequence

1. I. V. Ermakova, Doctor of Biology, International expert on food and ecological safety; Institute of Higher Nervous Activity and Neurophysiology of Russian Academy of Sciences

i_ermakova@mail.ru

Title: Experimental Evidence of GMO Hazard

The consumption of GM-food by mammals led to the negative changes in their

organisms (well known first researches)

Pusztai (UK, 1998) showed, that GM potatoes modified by the gene of the snowdrop lectin stunted the growth of rats, significantly affected some of their vital organs, including the kidneys, thymus, gastrocnemius muscle and others and damaged their intestines and their immune system.

Malatesta et al. (Italy, 2002, 2003) obtained the significant modifications in the cells of liver, exocrine pancreas and testis of mice, fed by diet containing GM-soybean (Roundup Ready).

Ermakova et al. (Russia, 2005-2009) pathological changes in the cells of different internal organs, infertility, tumors in animals (mice, rats and hamsters) fed by diet containing GM-soybean (Roundup Ready).

Prescott et al., (Australia, 2005). GM peas. Consumption of the modified RAI and not the native form predisposed to antigen-specific CD4+ Th2-type inflammation. Transgenic expression of non-native proteins in plants may lead to the synthesis of structural variants possessing altered immunogenicity.

Seralini et al., 2007 (France, 2007, 2012), Velimirov et al., (Austria, 2008). GM Maize pathological changes in internal organs, disturbance of reproductive functions, tumors in rats.

Our experiments showed negative influence of GM-soy on rat pups

- High mortality of pups in the first generation (more than half)
- Absence of the second generation
- 40% of survived pups had small sizes and weights
- 5% of pups had tumors

2. Michael Antoniou, PhD, King's College London School of Medicine; Head of Gene Expression and Therapy Group.

Title: Glyphosate: are regulatory set exposure levels safe?

Presently approximately 80% of genetically modified (GM) crops grown globally (mostly in North and South America) are engineered to tolerate being sprayed with glyphosate-based herbicides, such as Roundup. Thus exposures to glyphosate-based herbicides have increased dramatically since 1996 when these so called Roundup Ready GM crops started to be grown commercially. Levels of exposure to glyphosate; that is, the acceptable daily intake (ADI), which regulators say is safe to consume, varies around the world. Within the European Union and Australia it is currently 0.3mg/kg/day (milligrams per kg body weight per day); in the USA the ADI is 1.75mg/kg/day whilst in China it is between these values at 1mg/kg/day.

However, are these regulatory set limits of glyphosate exposure safe? This presentation will discuss the evidence and assumptions behind these regulatory set limits of exposure. In particular data showing that glyphosate can act as an endocrine disruptive chemical (EDC) in multiple hormonal systems (such as retinoic acid, estrogen) will be presented, properties currently not taken fully into account by regulators. Increasing evidence shows that glyphosate can potentially act as an EDC at very low amounts, which calls into question the safety of the regulatory set limits of exposure. Worryingly, the range at which glyphosate can act as an EDC is what can be found in the human population. These developments argue for an urgent review of the limits of exposure to glyphosate by regulators.

3. Eva. Sirinathsingh, PhD, ***Institute of Science in Society, London, UK.***
evasinghji@gmail.com

Title: **The paradigm shift from genetic to epigenetics and its implications for GM crops utilising RNAi technologies**

The gene-centric view of evolution and organism function has long dominated western biomedical sciences, influencing scientific philosophy, the pursuit of medical treatments, societal policies and attitudes, as well as the rationale and acceptability of novel biotechnologies such as genetically modified crops.

However, the emerging field of epigenetics not only questions the ideological basis of the gene-centric view of biology, but also the safety and utility of genetically modified crops, especially new varieties that utilise RNAi technologies. These technologies have the potential to cause known as well as unpredictable risks to human health.

4. Zhou Zewei, Researcher, (Beijing) Concorde Medical College

zhouzewei666@126.com

Title: Health Hazard of GM Soy Cooking Oil

Animal formula feed more nutrients than human protein nutritional requirements

The average reasonable protein day demand of common person is 1 g/Kg body weight.

Standard animal feed with 20% protein to rat: Calculated on basis of 200g rat body weight, 20g/d feeding rate, protein intake amount: 20g x 20% = 4g/rat/d.

Equals to rat per kg body weight: 4 x 1000/200 = 20g/Kg/d (large rat).

Equivalent (person) to large rat conversion calculation: 20/6.17=3.24g/Kg/d (person), Equal to 70kg body weight person day intake protein 212.7g.

A fixed high nutrient feed dramatically increases animal resistance to adverse effects, and easily hides trace toxin effects.

Human nutrition level is significantly lower than the rat AIN - 93 G formula. And people daily diet is not fixed, nutrition is usually or high, or low.

Experimental rats in the growing period, with strong physical and uniformity, have strong ability against negative effects.

Human physicals vary widely. The WHO published data: 75% of the population in the world is in a state of sub-health, with weaker ability against bad violation.

Therefore, nutrition level and physical fitness determines poor ability of human to bad violation from trace toxins in food in comparison with experimental animals, and obvious difference is existing between human and experimental animals. So, e**ven if 30d and 90d test obtain evaluation conclusion of 'substantial equivalence' ,it does not guarantee that the GM food safety for human consumption.**

The establishment of the low nutrition BDI - GS evaluation system

If the feed nutrition levels is reduced, then the coverage of feed on a food effect is reduced, differences appeared easily, side effects and risks is easy to be revealed.

Animal model of low nutrition feed will be inferior health, more closer fitting the real conditions, especially to 75% of sub-health crowd safe food of this class of people, 25% of healthy people will be more safe.

Under such lower nutrition conditions, statistical data gives the average and ± SD, simultaneously, BDI value (the Benefit- Damage Index) is given, easy to determine the degree of profit and loss effects of such food on organ or tissue.

Feeding tests on rats under such conditions reveal four health hazards of GM soy oil: 1) Heart health damage (cardiopulmonary indicators) ; 2) Long-term cancer high risk (thymus indicator); 3) Reproductive function of damage (the gonads and Seminal vesicle indicator); 4) The influence of the spleen and stomach function (spleen indicator).

Independent Lab testing of GM food oil revealed:

Glyphosate residue: Not detected, minimun detection level 0.05mg/kg

AMPA residue: 0.06mg/kg

Independent Lab testing of GM soy sauce revealed:

Glyphosate residue: Not detected, minimun detection level 0.133mg/kg

AMPA residue: 0.089mg/kg

5. Robin Mesnage, PhD,King's College London, UK

(presentation photo missing)

robinmes@gmail.com

Title: Assessment of health effects of pesticides residues in GMOs: A focus on adjuvants

6. Peter Saunders, Institute of Science in Society, King's College London

peter.saunders@kcl.ac.uk

Title: The Sparc: An Independent Voice for Scientists

Abstract:

Independent scientists have always had problems both in carrying out their research and in having their results published. The difficulties have now greatly increased because corporations are putting more and more effort into obstructing research that they see as being likely to affect their profits. TheSparc is a new database that is makes it easier for independent scientists to communicate with the scientific

community, with the public, and, most importantly, with each other.

7. Ana Broccoli, Ag. Eng. (Ms Sc), Liliana Esther Maldonado, Medardo Avila Vazquez

Free Chair of Family Farming and Food Soveregnity; Faculty of Agricultural Sciences, Universidad Nacional de Lomas de Zamora, Argentina

anabroccoli@gmail.com

Title: ORIGINS, IMPACTS, STRUGGLES AND CURRENT DISPUTES OF THE AGRO-INDUSTRIAL MODEL IN ARGENTINA: A SYSTEMIC VISION

8. MIGUEL ANGEL FERNANDEZ, Chairman, Association of Development, Argentina

medardoavilavazquez@yahoo.com.ar
(Roberto Ugás, left, interpretation into English.)

Title: Organized Family Farming

9. LILIANA MALDONADO, Farmer, 21 years old, EL BRETE, Argentina

lilianamaldonadofonaf@gmail.com
(Roberto Ugás, left, interpretation into English.)

FROM THE YOUTH: BEING YOUNG AND WILLING TO FIGHT FOR A FAIRER WORLD.

10. Arnaud Apoteker, GMO Advisor
The Greens | European Free Alliance in the European Parliament

arnaud.apoteker@europarl.europa.eu

Title: Civil Society and Stalling of GMOs in the EU

11. Tung-Jye Wu, Green Formosa Front

Title: Non-GMO Movement in Taiwan

12. Zen Honeycutt, Founder & Director, Moms Across America

Title: The Impact of GMOs/Glyphosate on American Children and What We Can Do About It

Email: zenhoneycutt@gmail.com

Introduction

Education:

Parson's School of Design Bachelor's of Fine Arts, Landmark Curriculum for Living，Choate Rosemary Hall

Work:

Founder and Director of Moms Acoss America 2012-present

Owner Zen's Purple Garden 2005-2012

Fashion Designer from 1999-2005 in NYC, Montreal, LA with dollhouse, Jou Jou, Le Cahteau, Fossil, Earl Jeans.

Abstract:

Mother’s perspective and role in this cause. Glyphosate testing and breast milk finding. Moms Testimonials. What can we do? Shopping. Eating. Activism

Collateral Damage: Statistics of the Proposed Impact of Pesticides on Our Food by Moms Across America

Studies show glyphosate destroys gut bacteria. Illnesses today in America associated with the gut bacteria being damaged. 150 America children die each year from peanut/food allergies =3000 children. Hospital records show a 79% increase in diagnosis of children with Crohn's disease in the past 10 years since the majority of pesticides have been introduced. Damaged gut means inability to produce serotonin, which regulates insulin. Diabetes =**25.8 million** people in 2011 alone. Damaged gut bacteria means an inability to create tryptophan and therefore melatonin. Lack of sleep, combine with lack of serotonin can lead to depression, mental illness m bi polar and acts of violence. America is the most highly drugged population in the world and has a school shooting every other day.

Studies show glyphosate is an endocrine disruptor.

The United States is #1 for infant death on day one. The USA has a 30% failure to conceive rate in young couples, nearly = **2 million** babies lost each year

Studies show a gut brain connection. 20 years from now, 1 out of 2 of our children will be diagnosed with Autism if we continue at the current rate. Alzheimer's increase- **5 million** currently, every 67 seconds someone dies of Alzheimer's

Studies also show that glyphosate breaks down the blood brain barrier, allowing toxins into the brain. This may very well account for why doctors did not see a "flood of children with autism," despite mercury being in vaccines since 1929, until the late 1990's when GMOs and glyphosate were allowed into our food. Cancer is the number one killer of children in America today. 1 out of 2 of our children have some form of chronic Illness in America today. Nearly 200 million USA chronically sick children and adults with cancer, diabetes and Alzheimer's.

Session 4: Sustainable Agriculture
Afternoon, 26th July 2014

Convenor: Prof. Gu Xiu-lin, Yunnan Financial & Economics University Social & Economics Behavior Research Center
Chen I-wan, Advisor, Committee of Disaster History to China Disaster Prevention Association; Advisor.

Speakers, presentation and sequence

1. Robert Allen Streit, Crop consultant, agronomist
newspaper column writer

bastreit@gmail.com

Title:'Soil Remediation Work' Field Trials, Facts, Unknowns

Abstract #2

As lab instrumentation improves more foods and liquids will get analyzed for pesticide contaminants for people interested in knowing what they are consuming. This information will get correlated with the increasing volume of medical research documenting how those contaminants negatively human health. There is then going to be an increased need to develop attainable programs to remediate the soils in several

countries. The sampling and analyses done so far has confirmed peoples' suspicions that contamination is occurring in more foods and at higher levels than disclosed in any report to the public in many countries. The findings will generate questions as to where in the production process the contamination is occurring, what means are there of avoiding the problem and then finally create a discussion as to the overall solution.

There are many different pesticides used around the world. These include herbicides, insecticides, nematicides and fungicides. The efficacy of each is often dependent on several factors and is typically expressed in terms of LD50, which is the lethal dose needed to kill fifty percent of the target population. Another important factor is how long the product (s) persists in the environment. Ag producers and pesticide companies typically desire a long period of activity. This same trait can cause problems if the product lasts too long and affects follow crop or can bio-accumulate across several seasons to cause problems.

In the case of glyphosate, studies have been done at the University of Hohenheim in Stuttgart, Germany. In those studies they found that the product is tied up quickly, as the advertising states, but it does not disappear. Instead it is sequestered onto the clays and organic matter at rates dependent on clay content and soil pH. At Hohenheim University researchers established a half life of eight to twenty two years. This means glyphosate can enter the plant in the application year or in previous year's application. This could me many years after glyphosate may have been applied to the soil. The release from the soil is often dependent on application of a phosphorous fertilizer.

What is needed is a large scale testing program to determine what microbial mix or mixes prove capable of degrading glyphosate or other problematic pesticides. In the past it was known that glyphosate and AMPA, its primary metabolite, were difficult to degrade due to its anti-microbial properties. Such information will then be supplied to growers wishing to decontaminate soils that could then grow Ag crops free of glyphosate contamination. This program can be utilized after credible microbial degrading compounds from different companies or research groups have been identified and forwarded to the research teams. Once the performance data is released the degradation team can decide the companion products to add to act as synergists or accelerants in the clean-up programs.

2. Claire Bleakley, R.C. Hom, BSc/Psyc, Dip Herb
GE Free NZ in Food and Environment

Title: GM Animal trials in New Zealand

p.bleakley@orcon.co.nz

3. Brendan Hoare, Organic Systems Ltd
www.organicsystems.co.nz

bhoare@organicsystems.co.nz

Title: Finding Common Ground: Active solutions for people, produce and planet

Abstract: It is a wicked opportunity. Leaders accept the 'status quo' is unacceptable and the world begs for clean, safe, green food. Meanwhile New Zealand struggles with its

identity (and responsibility), failing to seize the moment to be an action oriented hero for tomorrow's world. Solutions are on offer， but finding common ground requires an openness to change cultural attitudes, practices and beliefs. This presentation will explore how food production systems of all sizes can adapt their ways of thinking and operations to meet these demands. The presentation is based on findings and learning from a leadership role and research conducted as part of the 2014 UN International Year of Family Farming and other first-hand experience from NZ and around the world.

4. Jiang Gao-ming, Chief Researcher, Institute of Botany, China Academy of Science
Special invited professor, Instiute of Botany, Shandong Provincial People's Government
(Note: Jiang is on a survey trip in Tibet, requested his student to speak on his behalf.)

jianggm@126.com

Title: Hongyi Farm Eights Years Development Approach: Ecological Harmorny & Agriculture Safety

5. Na Zhong-Yuan, Director, Institute for Ecological Research, Yunnan
(Presented by Yang Hong-jun, Deputy Director)

Title: Never stop Explore the Nature Only for the Good of Mankind

6. Roberto Ugás, Universidad Nacional Agraria La Molina, Peru
International Federation of Organic Agriculture Movements, IFOAM

rugas@lamolina.edu.pe

Title: Agroecology and food security in the Andes Insights from a research project on Ecological and socioeconomic intensification of smallholder agriculture (Canadian

International Food Security Research Fund) or GMOs are not a sustainable option

Abstract

The presentation will provide practical examples on how the AGROECO project has approached the connections between agroecology and food security in smallholder farming in the Peruvian high Andes, while presenting the main elements of IFOAM Position Paper on "The Role of Smallholders in Organic Agriculture". It will also explain the process that led to the declaration of a moratorium on GMOs in Peru.

The AGROECO Project: Ecological and socioeconomic intensification of smallholder farming in the Andes of Peru

In spite of high economic growth, poverty in Peru is almost three times higher in rural areas than in urban areas. Organic agriculture is often promoted as a sustainable way to increase overall farm performance, reduce poverty, mitigate climate change, and improve food security. However, without sound ecological, social, and economic research, organic farming will not unravel its full potential to improve farmers' livelihoods.This project, supported by the Canadian International Food Security Research Fund (CIFSRF), aims to increase the effectiveness of organic farming in two regions of the Peruvian Andes (Cusco and Cajamarca) known for their high biodiversity and active farmers' associations.

The project will improve farm productivity by enhancing ecological cycles and improving participatory plant breeding, placing value on indigenous crops and nutrition. Research will also focus on social processes, including innovation, traditional knowledge, and linkages between organizations, policy, and advocacy.

Finally, to help increase farmers' incomes and food security, this project will develop and enhance market access for organic products in the region.

IFOAM Position Paper: The Role of Smallholders in Organic Agriculture:

IFOAM recognizes the essential role of smallholders, especially in food production and sustainable rural economies but it is clear that many smallholders are very poor, disadvantaged and have insufficient access to resources and support. This has to change.

IFOAM recognizes that smallholders have a fundamental role in the stewardship of biodiversity and regards organic agriculture based on the scientific discipline of agroecology as the most appropriate way to achieve ecological, agronomic and socio-economic intensification of smallholder agriculture.

IFOAM recognizes that major efforts are needed to improve smallholder farm productivity and calls for a much higher investment in pro-smallholder science, technology, infrastructure, services and innovation.

IFOAM calls for improved local, national and international policies to promote sustainable organic smallholder systems and businesses.

7. By Séralini et al., 2012- 2014

Presented by: Nicolas DEFARGE

University of Caen, Institute of Biology, EA2608, CRIIGEN, and Network on Risk, Quality and Sustainable Environment MRSH

nicolas.defarge@gmail.com

Title: Conflicts of interests, confidentiality and censorship in health risk assessment: The example of the fate of "Long term toxicity of a Roundup herbicide and a Roundup-tolerant genetically modified maize" by Séralini et al. (2012-2014)

Abstract

We have studied the long-term toxicity of a Roundup-tolerant GM maize (NK603), and of a whole Roundup pesticide formulation at environmentally relevant levels from 0.1 ppb. “Long-term toxicity of a Roundup herbicide and a Roundup-tolerant genetically modified maize” was published in *Food and Chemical Toxicology* (FCT) on September 19th, 2012[1]. The major findings were that:

- Roundup provokes severe hepatorenal deficiencies and sex-dependent hormonal effects such as mammary tumors from very low environmental levels (0.1 ppb);
- Comparable results have been obtained during chronic consumption of an equilibrated diet containing NK603. This was due to Roundup residues and to this specific genetic modification;
- Roundup formulations and Roundup-tolerant GMOs should be considered as endocrine disruptors and their present assessments on health are drastically deficient.

The first wave of criticisms arrived within a week, surprisingly, mostly from plant biologists. We answered all these criticisms[2]. The debate then encompassed scientific arguments and a wave of *ad hominem* and potentially libellous comments appeared in different journals by authors having serious yet undisclosed conflicts of interests. In the same time, FCT acquired as new assistant editor for biotechnology a formal employee of Monsanto after he sent a letter to FCT to complain about our study. This is in particular why FCT asked for a *post-hoc* analysis of our raw data. On November 19th, 2013, the editor-in-chief requested the retraction of our study, which is completely unusual, and moreover recognizing it was not incorrect, that there was no misconduct, no fraud or intentional misinterpretation in our complete raw data. They argue that no conclusions can be drawn because we studied 10 rats per group over two years, because they were Sprague Dawley rats, and because we could not conclude on cancer. This was known at the submission of our study. Our study was however never attended to be a carcinogenicity study. We never used the word “cancer” in our paper.

After explaining the reasons that lead us to chronically assess this GM maize and Roundup as a formulation and recalling the main results of the article, the presentation will include a summary of the debate resulting in its retraction, as it is an historical example of conflicts of interests in the scientific assessments of products worldwide commercialized. We also show that the decision to retract cannot be rationalized on any discernible scientific nor ethical grounds[3]. Censorship on research into health risks undermines the value and the credibility of science, thus our paper should be republished.

8. Vandana Shiva, Director of Globalization Forum, Prominent social activist

vandana@vandanashiva.com

Title: Sustainable Agriculture - The answer to world hunger, malnutrition and food hazards

Summary of presentation:

We face a triple crisis-

1 the crisis of farmers livelihoods and socio-economic sustainability of rural economies

2 the ecological crisis of disappearance of biodiversity, erosion of soil fertility, depletion and pollution of water,climate change, and now genetic pollution. 75% ecological destruction is taking place due to non sustainable industrial agriculture

3 the health crisis. 75% of health problems, including malnutrition are related to industrial agriculture that intensifies the use of toxics and poisons.

GMOs aggravate each aspect of the triple crisis. Since royalty collection through patents and technology fees is the primary motivation, farmers are pushed into deeper debt due to defence on GMOs. In the US this extraction of super profits is approximately $10 billion. In India, royalty for Bt cotton has trapped farmers in debt and pushed them to suicide. Of the 300000 farmers suicides since 1995, most are in the cotton belt.

Ecological agriculture based on Seed Sovereignty (Bija Swaraj) and Food Soveregnty (Anna Swaraj) offers the real solution to the triple crisis

1 Ecological agriculture reduces costs of production, thus increasing net income of farmers. When combined with fair and just markets, farmers incomes can increase unto 10 fold as Navdanya's research has shown

2 Ecological agriculture rejuvenates soil, biodiversity, water, and builds resilience to climate change

3 Ecological agriculture that is biodiversity intensive , increases health and nutrition per acre, and gets rids of the poisons that are contributing to disease epidemics.

Speech by Ms. Ling Zi, the leading individual sponsor to the forum

A flower presentation surprise by Zen on behalf of all the overseas guests to Prof. Gu Xiu-lin, the initiator of the forum.

Summary of all presentations

Compiled by: Jeffrey M. Smith, Director, Institute for Responsible Technology

Author of Genetic Roulette - The Gamble of Our Lives, Seeds of Deception: Exposing Industry and Government Lies about the Safety of the Genetically Engineered Foods You're Eating.

jeffrey@seedsofdeception.com

The main problems

- Too little diversity, unsustainable consumption patterns
- Consumption patterns and food prices
- Over feeding
- Too much production, too much waste
- Green house gasses

The main solutions: Agro-ecology
Paradigm shift / all inclusive

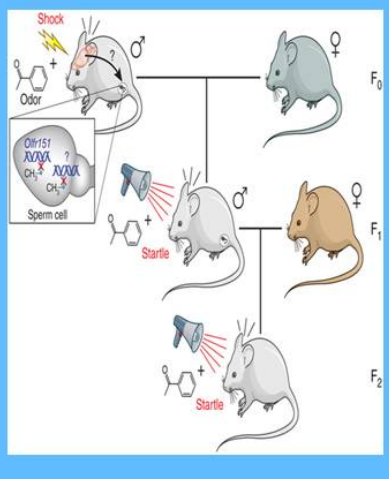
MILLENNIUM INSTITUTE

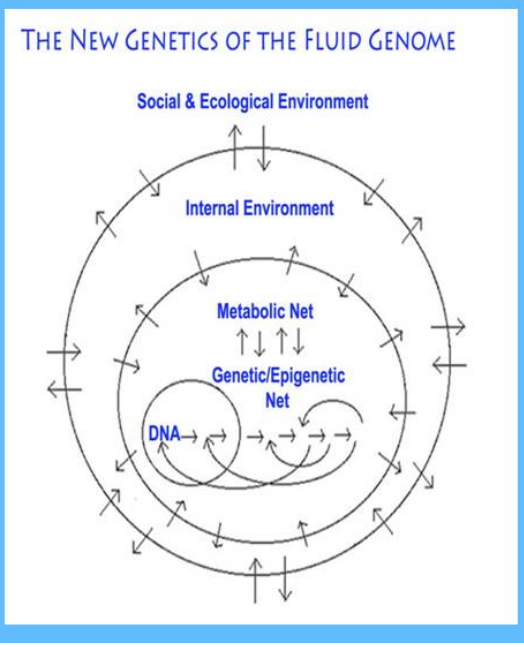
biovision

Going against the central dogma
逆中心法则而行

Fc MW. Living with the Fluid Genome

Fluid Genome
流动的基因组





Unexpected changes in the DNA

DNA中未曾预料的变化

Context-inappropriate, hence uncontrollable & unpredictable hazards: scrambled genomes, new nucleic acids, proteins, and metabolites

Uncontrollable, unpredictable effects due to the genetic modification process

- Scrambling the host genome*
- Widespread mutations*
- Inactivating genes*
- Activating genes*
- Creating new transcripts (RNAs) including those with regulatory functions*
- Creating new proteins
- Creating new metabolites or increasing metabolite to toxic levels*
- Activating dormant viruses*
- Creating new viruses by recombination of viral genes in GM insert with those in the host genome*

DNA changes can alter:

DNA变化可以改变：

RNA

Proteins 蛋白

Natural Compounds

自然成分

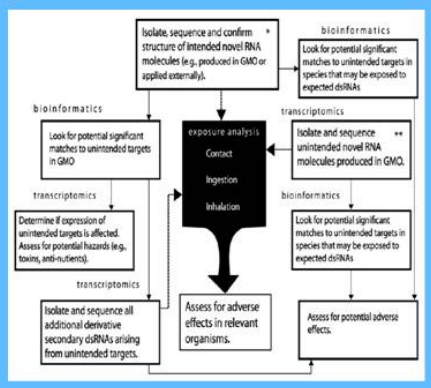
Implications for RNAi GM crops
RNAi转基因作物的影响

- Off-target effects on human/ off-target wildlife genomes
- 对人体意料之外的影响/意料之外的野生动物基因组
  - Gene therapy studies in mice highlight the potential lethality of dsRNAs
  - 鼠类基因疗法研究突出表明了双链RNA的潜在致命性
  - Many insects can easily absorb dsRNAs, e.g. worms through skin
  - 许多昆虫都可轻而易举地吸收双链RNA，例如蠕虫透过皮肤
- dsRNAs expressed out of natural context, at higher levels than normal
- 自然条件下的双链RNA表达高于正常水平
- Sequence-independent toxicity also possible
- 也可能存在独立于序列之外的毒性
- Just because we eat RNA already, does not make them all safe.
- 因为我们已经食用了RNA，这并不意味着他们都是安全的。

We eat proteins too, but prion proteins are lethal!

我们也食用蛋白质，然而朊病毒蛋白就是致命的！

We cannot rely on assumption-based regulatory measures based on outdated science 我们不能依赖建立于过时的科学知识以及假设基础上的监管措施



Gene transfer to gut bacteria *or* into our DNA

基因转移进入肠内细菌或进入我们的DNA

Foreign genes were found in the cells of different organs of animals and humans

1. **Gruzza M, Langella P, Duval-Iflah Y, Ducluzeau R.** Gene transfer from engineered *Lactococcus lactis* strains to *Enterococcus faecalis* in the digestive tract of gnotobiotic mice. Microb Releases 1993;2:121–125.
2. **Schubbert R., Lettmann C. and Doerfler W.** Ingested foreign (phage M13) DNA survives transiently in the gastrointestinal tract and enters the blood stream of mice. Molecules, Genes and Genetics 242, pp.495-504, 1994.
3. **Trudy Netherwood, R. Bowden, P. Harrison, A. G. O'Donnell, D. S. Parker, and H. J. Gilbert.** Gene Transfer in the Gastrointestinal Tract.*Appl Environ Microbiol. 1999 November; 65(11): 5139–5141. © 1999, American Society for Microbiology.*
4. **Andy Coghlan** *"GM crop DNA found in human gut bugs", NewScientist, 2002* (Harry Gilbert and colleagues at the University of Newcastle upon Tyne).
5. **Doerfler W., Schubbert R.** *Uptake of foreign DNA from the environment: the gastrointestinal tract and the placenta as portals of entry. Wien Klin Wochenschr. 1998 Jan 30;110(2):40–4. Review.*
6. **Schubbert R., Hohlweg U., Renz D., Doerfler W.** *On the fate of orally ingested foreign DNA in mice: chromosomal association and placental transmission to the fetus. Mol Gen Genet. 1998. Oct. 259(6), 569-76.*

First study in the world to look for horizontal tranfer of GM DNA using state-of-the-art technology in sensitivity & analysis, as well as the appropriate molecular probes

ENVIRONMENTAL Science & Technology

dx.doi.org/10.1021/es302760s | *Environ. Sci. Technol.* 2012, 46, 13448–13454

Article

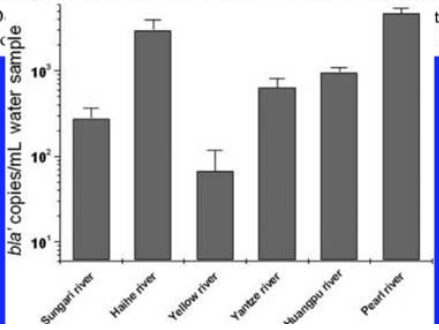
pubs.acs.org/est

A Survey of Drug Resistance *bla* Genes Originating from Synthetic Plasmid Vectors in Six Chinese Rivers

Jian Chen,[†,‡,§] Min Jin,[*,‡,§] Zhi-Gang Qiu,[‡] Cong Guo,[†] Zhao-Li Chen,[‡] Zhi-Qiang Shen,[‡] Xin-Wei Wang,[‡] and Jun-Wen Li[*,‡]

[†]College of Life Sciences, Sichuan University, Chengdu, Sichuan Province 610064, People's Republic of China

[‡]D... th and Environmental Medicine, Key Laboratory of Risk Assessment and ... People's Republic of China



USA, Europe, & rest of the world:

'Don't look, don't find'

isis

Influence of different GM cultures on human and animals

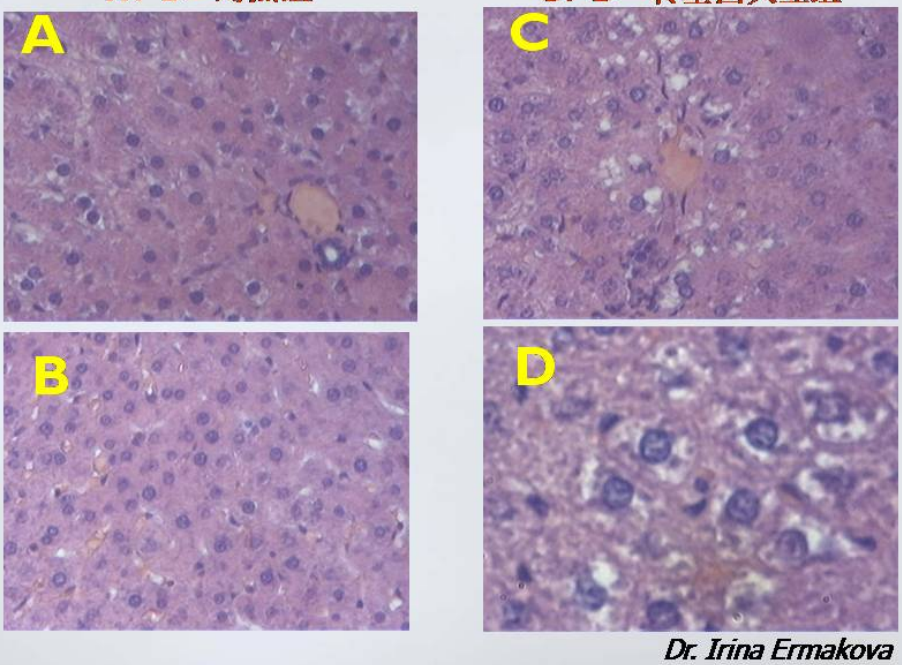
Species	GM species	Transgene trait	Effect
Rat	Soya	Roundup Ready	Stunting, death, sterility
Human	Cotton	Cry1Ac/Cry1Ab	Allergy symptoms
Sheep	"	"	Death, liver toxicity
Cows	"	"	"
Goats	"	"	"
Mice	Pea	Alpha-amylase Inhibitor	Lung Inflammation, General food sensitivity
Mice	Soya	Roundup Ready	Liver, pancreas and testis affected
Human	Maize	Cry1Ab	Illnesses and death
Rats	Maize	Cry3Bb	Liver and kidney toxicity
Cows	Maize	Cry1Ab/Cry1Ac	Death and illnesses
Rats	Potato	Snowdrop lectin	Damage in every organ system. Stomach lining twice as thick as controls
Mice	Potato	Cry1A	Gut lining thickened
Rats	Tomato	Delay ripening	Holes in the stomach
Chick	Maize	Glufosinate tolerance	Deaths

Ban GMOs *Now*
Dr Mae-Wan Ho

Rat Livers 老鼠的肝

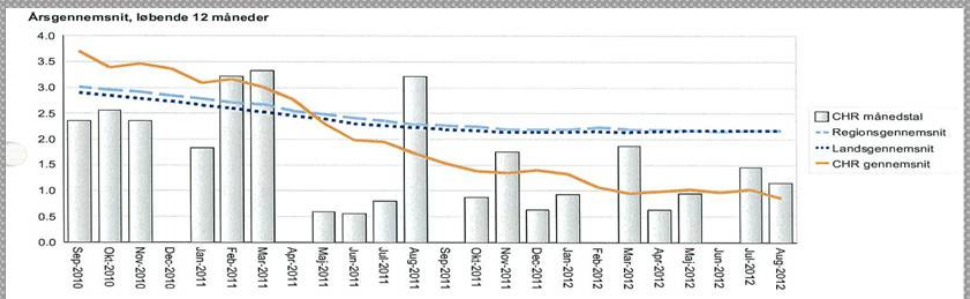
A, B – control group
A、B－对照组

C, D – GM-soy group
C、D－转基因大豆组



Dr. Irina Ermakova

Medicine Use: Sows and piglets
Non-GMO from April 2011
药品的使用：母猪和猪仔
自 2011 年 4 月，开始使用非转基因大豆饲料



ADD pr. 100 dyr pr. dag pr. antibiotikagruppe

Antibiotikagruppe	Sep 2011	Okt 2011	Nov 2011	Dec 2011	Jan 2012	Feb 2012	Mar 2012	Apr 2012	Maj 2012	Jun 2012	Jul 2012	Aug 2012
Tetracycliner		0,09	0,46	0,27			0,36	0,37	0,45			0,36
Penicilliner, udv.			0,56									
Simple penicilliner				0,22	0,72		0,86		0,43		0,36	0,43
Sulf/trim		0,43	0,36	0,16	0,21		0,64	0,11			1,1	0,37
Streptomycinpræparater		0,36	0,37					0,15	0,07			
Ordinationsgruppe	**Sep 2011**	**Okt 2011**	**Nov 2011**	**Dec 2011**	**Jan 2012**	**Feb 2012**	**Mar 2012**	**Apr 2012**	**Maj 2012**	**Jun 2012**	**Jul 2012**	**Aug 2012**
Reproduktion		0,27	0,14	0,22	0,29		0,97				1,03	
Tarmlidelser		0,16	0,22	0,16	0,21		0,11	0,11			0,43	0,37
Luftvejslidelser		0,09	0,46	0,27			0,36	0,37	0,45			0,36
Led, lemmer etc.		0,36	0,93		0,43		0,43	0,15	0,5			0,43
Gns. antal dyr/md.	*450*	*450*	*450*	*450*	*450*	*450*	*450*	*450*	*450*	*450*	*450*	*450*

12

Short summery of health effects
going NON-GMO.
简要概括：使用非转基因大豆饲料对健康的影响

- Higher milk production 产奶量提高
- Sows can look after 1-2 piglets more at the udder
- 母猪的乳房可以多照顾 1-2 个猪仔
- Less medicine usage 药品的用量减少
- Less abortions and more piglets born per litter
- 每窝猪仔的流产率降低，繁殖率增加
- No diarrhoea in piglets, and in weaners at feed change to feed containing more soya
- 猪仔没出现腹泻，断奶仔猪的喂养饲料中大豆含量增加
- No bloat, or ulcers in sows 母猪没有出现肿胀和溃疡
- Sows live longer, sows drop in production after 8 layer, on GMO soy after 6 layer,
- 母猪的寿命延长，喂养非转基因大豆饲料的母猪生产8窝猪仔后产仔量下降，喂养转基因大豆饲料时生产6窝猪仔后产仔量下降.

Clinical signs 临床症状

- Animals had 动物有
  - Atrophied testicles 睾丸萎缩
  - Huge teats and mastitis-remember these are bull calves!!
  - 巨大的乳头和乳腺炎--注意这些是公牛犊！！
  - Prolapsed prepuces 阴茎包皮脱垂
  - Blood and mucus in manure 粪便中有血和粘液
  - Nonresponsive pneumonia 无响应肺炎
  - Wasting 消瘦

Anecdotal Concerns from Study
研究中的一些经验性担忧

- Irritable / Difficulty performing simple tasks
- 易怒/难以完成简单的任务
- Listlessness / Lack of contentment
- 精神萎靡/不知足

Symptoms奶牛症状 (I)

- White / grey sticky diarrhea 白/灰粘质腹泻
- Water accumulation in the joints 关节积水
- Udder edema 乳房水肿
- Blood vessel enlargement 血管扩张
- Blood in the milk 产奶带血
- Dry, brittle Udder- / teet skin
  乳房/乳头皮肤干燥粗糙

Symptoms奶牛症状 (II)

- Cow mouth light pink 牛嘴呈淡粉红
- Cows very susceptible to illnesses 牛群极易患病
- Unusually high number of deaths 死亡率奇高
- Abnormalities with the animals 动物畸变

摄入非转基因食品4个月前后，孩子的过敏反应变化

My Child's Allergic Reaction Before and After Going GMO Free for 4 months

DAY 1 OF EXPOSURE
Red line around mouth, painful swelling and lasts 2 weeks.

DAY 1 OF EXPOSURE AFTER GOING GMO FREE FOR 4 MNTHS
Very faint pink line under lip, mild dry lips lasting 2 days.

Inflammation caused by allergies can cause stomach ulcers, which can cause stomach cancer. I believe we could be preventing him from stomach cancer by going GMO Free. He gives his permission to use this photo publically.
For more information about GMOs go to www.momsacrossamerica.com

摄入转基因食品后，嘴唇周围红肿持续了2周。停止摄入一切转基因食品4个月后，嘴唇周围红肿逐渐消失。过敏造成的炎症能够导致胃溃疡与胃癌。摄入非转基因食物能够避免产生这样的后果。孩子同意公开使用他的这个照片。

momsacrossamerica.com

One of hundreds of Testimonials from Moms Across America

来自妈妈纵横美国的100份证词之一

To add yours click here. http://www.momsacrossamerica.com/moms_survey

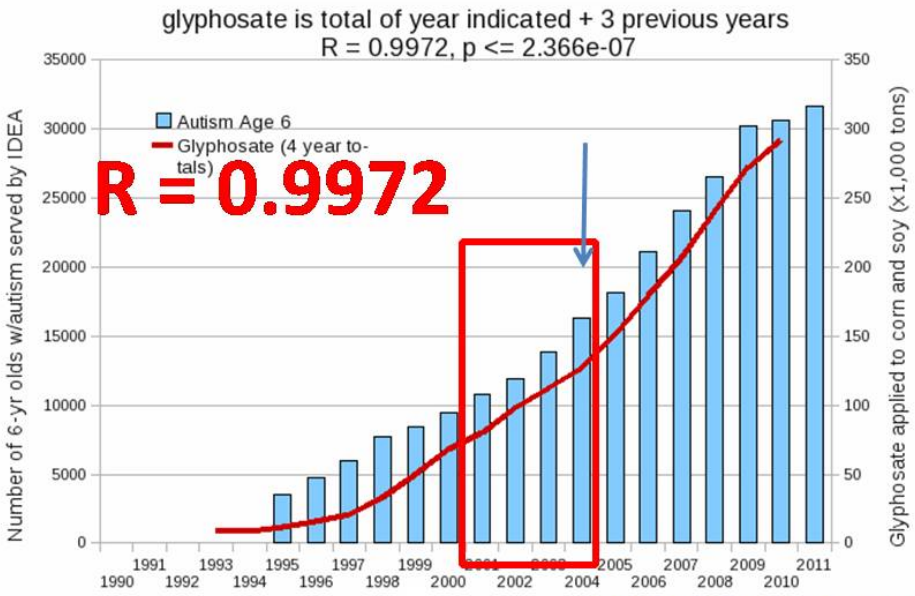
Mom's testimnials:

"My son has had severe autism. As a single Mom who makes about 40 K, it's tough but we only eat organic because I found out about GMOs about 2 years ago. When we went organic, after about 2 weeks, my father thought I was giving my son a new drug, because he saw such improvements, but I said "Nope, just went organic." This year he entered high school and not one of his teachers could tell he used to have severe autism symptoms. He is with the regular classs and he is doing well." - Cindy, MAA

"I went GMO free and after about a month, my Fibromyaglia symptoms went away." - Belinda

Autism Prevalence in US: 6 year olds

自闭症在美国的盛行：6岁儿童

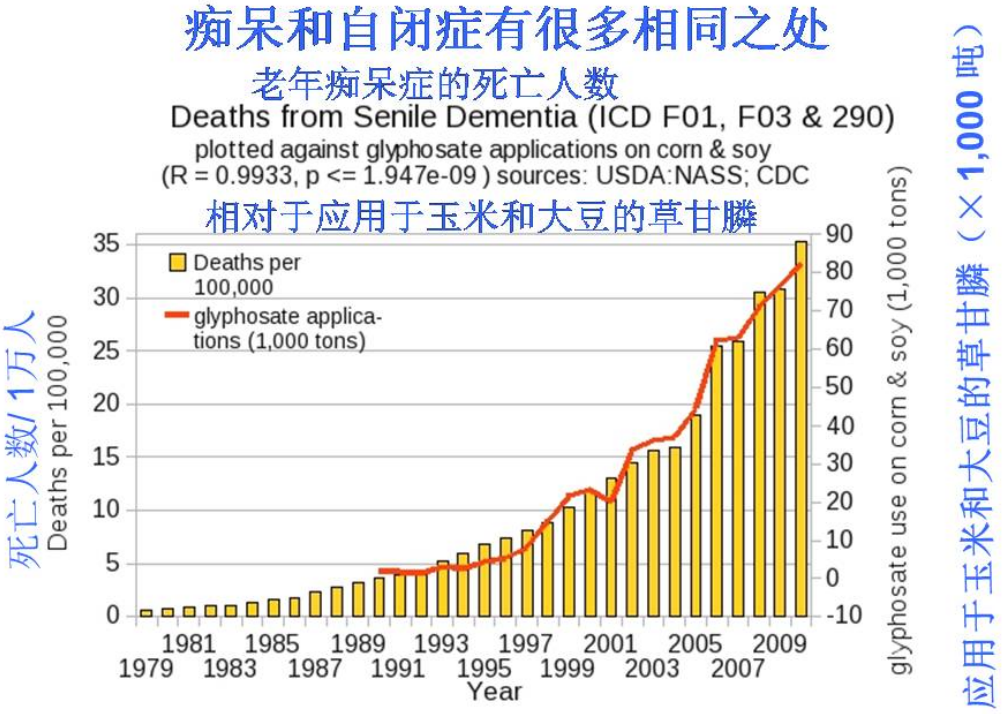


*Plot provided by Nancy Swanson, with permission 斯万森博士提供 资料来源:美农业部

Data sources: autism: US Department of Education; Glyphosate: US Department of Agriculture

Dementia and Autism Have Much in Common

痴呆和自闭症有很多相同之处



Plot kindly provided by Dr. Nancy Swanson

中国与GM油相关各类疾病发病状况

Various diseases situation related to GM oil consumption in China

- 各类心脏病人数超2亿. All kinds of heart patients more than 200 million
- 各类癌症每天确诊发病人数有1万人. All kinds of cancer diagnosed in 10000 people every day
- 不孕不育家庭约5000万. About 50 million infertility family
- 各类胃病患者占统计人口的69.6%. All kinds of stomach trouble patient accounting for 69.6% of the stastical population

TWO primary traits

两种主要的转基因品种

- Herbicide tolerance (73%)
- 抗除草剂品种 （73%）

  Roundup Ready（孟山都“终结者”）

  Liberty Link （自由链接）
- Pesticide production (18%)
- 产生杀虫剂

  Bt toxin （Bt 毒素）
- Crops with both traits (8%)
- 包含两种功能的品种 （8%）

毒性农业生物技术 Agriculture biotechnology Toxic

Bt毒素 Bt toxins

第一代和第二代叠加的基因
1st generation and 2nd generation piled genes

Aris A, Leblanc S: University of Sherbrooke
Reprod Toxicol. 2011 May Canada

CryAb1 toxin were detected in pregnant women (93%) their fetuses (80%) and no pregnant women (69%)

CryAb1毒素在孕妇（**93%**）、其胎儿（**80%**）以及没有怀孕的妇女（**69%**）体内检测到。

Cause?/原因？

Bt proteins are insecticides that rupture the gut of grubs

Bt蛋白是杀虫剂，导致幼虫肠壁破裂

GM maize used contained two Bt proteins in the diet.

使用的转基因玉米饲料中，含有两种Bt蛋白。

Act synergistically?

协同作用？

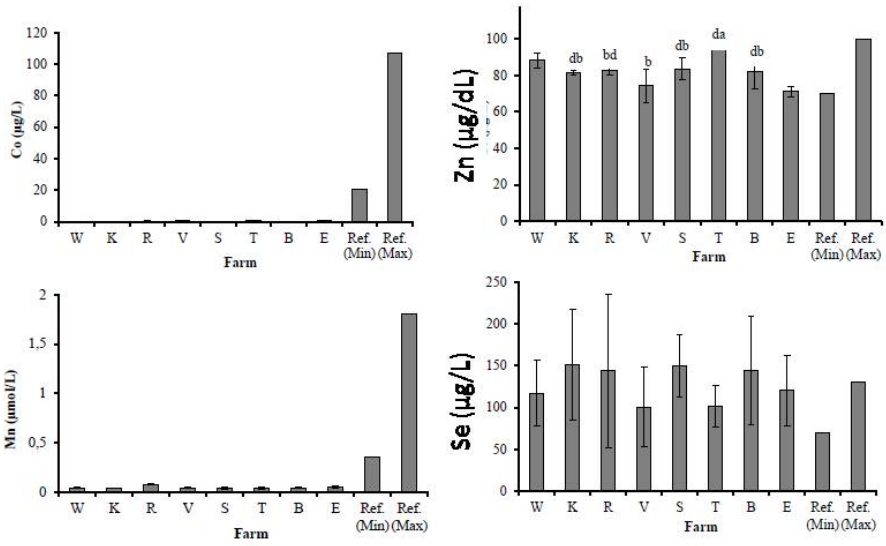
Glyphosate: multiple toxic effects

- Antibiotic
- Nutrient metal chelator; e.g. Mn, Mg, Zn, Co
- DNA mutagen
- Endocrine (hormone) disruptive chemical (EDC)


Glyphosate
Down Regulates 291 Enzymes
草甘膦调节的291 种酶举例
Stimulates pathogens 刺激病原体
Is toxic to beneficial microganisms 对受益者有毒
Glyphosate is Persistent in Soil 草甘膦在土壤中非常顽固
Promotes mycotoxins in Straw and Grain 秸秆和谷粒中的霉菌毒素
Bee Colony Collapse Disorder (CCD) 草甘膦对环境的影响 蜂群崩溃症候群
Promotes Infertility & Miscarriage /不育与流产
Effect of Glyphosate on Water Use Efficiency,
& Photosynthesis of Glyphosate-Resistant Soybeans
草甘膦对抗草甘膦转基因大豆光合作用与用水效率影响
Minerals chelated by glyphosate.
草甘膦螯合的矿物质
Fe 铁
Cu 铜
Mg 镁
Mn 锰
Zn 锌
Co 钴
Ca 钙
K 钾
Ni 镍
Bo 硼
Se 硒
K 钾

UNIVERSITÄT LEIPZIG

Effect of glyphosate on trace elements of cows
草甘膦对奶牛体内的微量元素产生的影响



Krüger et al. 2013 Field Investigations of Glyphosate in Urine of Danish Dairy Cows

对丹麦奶牛尿液中草甘膦的含量进行调查

VMF Veterinärmedizinische Fakultät

UNIVERSITÄT LEIPZIG

Reasons of interests in glyphosate
对草甘膦感兴趣的原因

- **From the middle of 1990s unexplainable increased cases of chronic or visceral botulism in Germany**
- **自二十世纪九十年代中叶起，德国出现了大量的慢性或内脏肉毒中毒事件，这一现象难以解释。**

cases
- 1
- 2-10
- 11-35

Böhnel et al. 2011

VMF Veterinärmedizinische Fakultät

Illnesses today associated with the gut bacteria being damaged:

与受损的肠道细菌相关的疾病：

Food allergies, Colitis, IBS, Crohn's disease and more.

食物过敏，结肠炎，肠易激综合征，克隆氏病等。

•***Food allergies have increased 400% =6.7*** *million USA children.*

•食物过敏增加了 **400%**，相当于**670** 万美国儿童

www.momsacrossamerica.com Contact
Zen Honeycutt
info@momsacrossamerica.com

32

Damaged Gut Makes Our Children Vulnerable to Illness

受损的肠道使儿童更容易生病

•Damaged gut means inability to produce serotonin, which regulates insulin and therefore diabetes.

Diabetes =25.8 million people in 2011.

• 受损的肠道意味着无法产生血清素，血清素调控胰岛素和糖尿病。

• 糖尿病 = **2580** 万人（**2011** 年）

•Diabetes in teens is 4X higher in 10 yrs.

• 十年来，青少年糖尿病患者增加了 **3** 倍。

www.momsacrossamerica.com Contact
Zen Honeycutt
info@momsacrossamerica.com

33

Collateral Damage of American Children
美国儿童的间接损害

- ***Food intolerances, =24.7 million.***
- ***食物不耐症= 2470 万***
- ***Colitis has tripled in just 10 years.***
- **在仅仅十年间，结肠炎增加了 2 倍。**
- ***Crohn's 79% increase in diagnosis of children.***
- **在儿童诊断中，克隆氏病增加了 79%。**

2014/8/8

www.momsacrossamerica.com Contact
Zen Honeycutt
info@momsacrossamerica.com

Stomach inflammation results
胃炎结果

The rate of severe stomach inflammation in GM-fed pigs compared to non-GM-fed pigs:

喂养转基因饲料的猪与喂养非转基因饲料的猪发生严重胃炎的比率：

- Overall 2.6 times more likely, p=0.004
- 从整体上看，2.6， p=0.004
- In males – 4.0 times more likely, p=0.041
- 在雄猪中—4.0， p=0.041
- In females – 2.2 times more likely, p=0.034
- 在母猪中—2.2， p=0.034

Drug Free Non-GMO Fed Pig Stomach

喂养无药物非转基因饲料的猪胃

Drug Free GMO Fed Pig Stomach

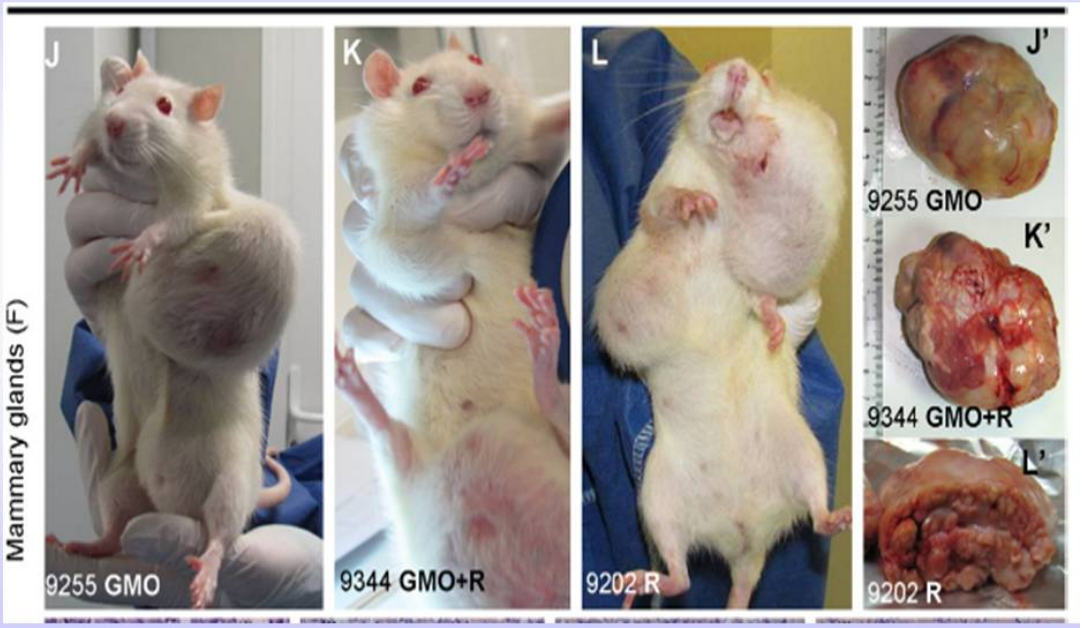
喂养无药物转基因饲料的猪胃

Prospect 展望(II)

- Massive diarrhea symptoms in animals within 12h after grass consumption
- 食用草料12小时之内，大量牲畜出现腹泻症状

Tumors in rats, fed by GM-soy in our experiments (Ermakova, 2005-2010).

Tumors in rats in the investigationhs of French scientists (Seralini et al., 2012, *GM maize, MON863)*

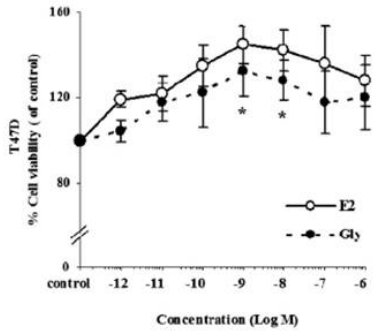


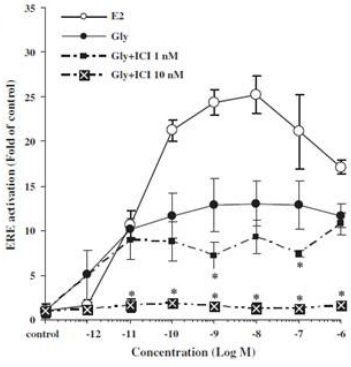
Glyphosate/Roundup have EDC Capability:
Estrogen System

Roundup formulation at 0.00023% glyphosate dilution (Hokanson R et al., 2007):

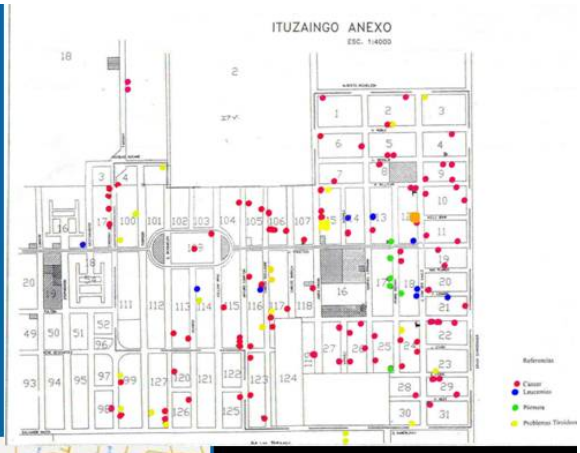
- **Replaced and worked synergistically with estrogen to promote human breast cancer cell growth**
- **Dysregulation of large numbers of genes**

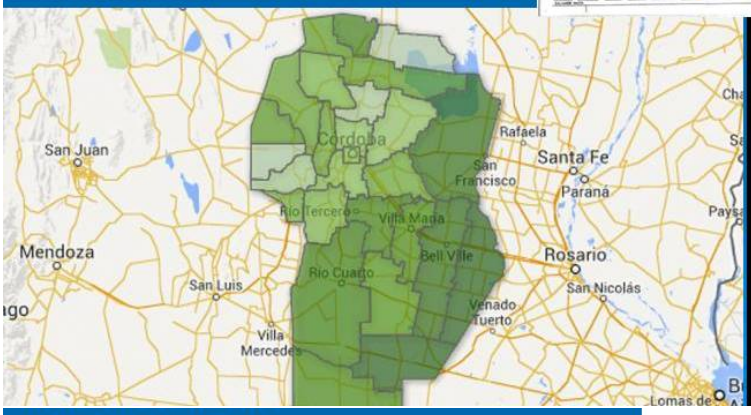
Glyphosate mimics estrogen in promoting human cell cancer cell growth at extremely low (starting at 1.69ng/L or 1.69ppt) concentrations (Thongprakaisang S et al., 2013):





癌症患病率提高
农药使用的增加
Increased cancer
increase in pesticides





农村生殖健康研究
Oliva Alejandro 医生 2008年
Rural and Reproductive Health Study
Dr. Alejandro Oliva 2008

胃癌和睾丸癌症**x 3次**
Gastric and Testicular Cancer x 3 times
肝癌**x 9次**
Liver Cancer x 9 times
胰腺癌**x 2次**
Health and Pancreatic Cancer x 2 times

赫南多城市 City of Hernando
卫生局 Secretary of Health- Municipality

2001 – 2003年: 癌症患者67例
2010 – 2012年: 癌症患者173例
提高258%

2001 – 2003: 67 cancer patients
2010 – 2012: 173 cancer patients.
Increase of 258%

local prevalence rate in cancers 1440 cases / 100,000 people
当地的癌症患病率为：1440例/10万人
overall prevalence rate in cancers 460 cases / 100,000 people (WHO)
癌症总患病率：460例/10万人 (世界卫生组织)

高农残转基因大豆致癌是有充分科学依据的！

High herbicide residues GM soy carcinogenic have sufficient scientific basis!

2010年中国各类癌症的发生人数为220万人/年，到2012年已上升为350万人/年，仅两年时间就快速增长了59%。GM大豆油及酱油的推广食用对中国人口的健康危害是巨大的，必须引起高度重视!

In 2010 in china, occurrence rate of various types of cancer was 220 million / year, but in 2012 has risen up to 350 million / year, only two years on the rapid growth of **59%.** GM soy oil and sauce have yield huge influence to the health of Chinese people. Must pay high attention!

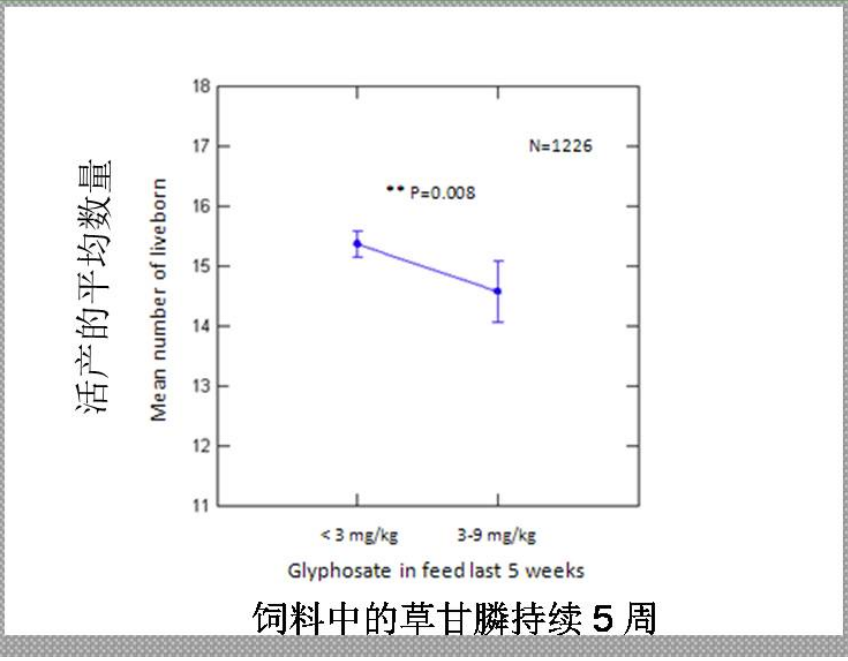
喂食20天的母猪生下的小猪（左图）

未喂过335的母猪产子量（右图）

Experience of Side Effects
副作用举例

- 1998 GMO BT Corn 1998年转基因 BT 玉米
- Sows in Nebraska 30% - 70% open
  内布拉斯加州 30% - 70% 的母猪配不了种。
- South Dakota – Reduced litter averages and smaller birth weight on pigs
  南达科他州 - 平均产仔数减少，猪仔体重降低
- Iowa - Pseudo-Pregnancies in sows
  爱荷华州 - 母猪出现假孕

There are significantly less pigs born after Higher levels of Glyphosate in food!
饲料中草甘膦残留量增加，产仔率就会大大降低



饲料中的草甘膦持续 5 周

47

Marylin 玛丽琳 DE 0661754956

1710.2003 2003年10月17日
Marylin DE 0661754956
Landkreis:Wetterau
Gemeinde:WOifersheim
Betrieb: Weidenhof Gottfrie
GlOckner
Drosengewebedurchbruch

自然流产 MISCARRIAGES

11个研究之中有9个发现，接触农药与自然流产,胎儿死亡,胎死腹中有关；此外，接触农药也会引发早期流产和晚期流产。

9 out of 11 studies showed a positive link between exposure to pesticides and miscarriages, fetal death, stillbirth; and critical windows to the moment of exposure with early or late abortions.

城市 Town	每100名育龄妇女流产的比例 abortions per 100 women in reproductive age
Ituzaingo居委会 Ituzaingo Neighborhood	21 % 5年中 in 5 years
Las Vertientes	19% 5年中 in 5 years
Malvinas Argentinas 城市	23% 5年中 in 5 years
San Antonio居委会 San Antonio Neighborhood	03% 5年中 in 5 years

胎儿畸形 Malformed Fetus

GMO/Glyphosate Impacts our Babies
转基因作物/草甘膦影响我们的孩子

- ***The USA has a 30% failure to conceive rate in young couples, the highest in recorded history. – The Sierra Club***
- *在美国年轻夫妻中，其中有**30%** 无法生育，创历史新高。---塞拉俱乐部*
- ***2 million babies lost each year, 379 day, 3.8 babies a minute.***
- *美国每**379** 天死亡**200** 万婴儿，平均每分钟死亡**3.8** 婴儿。*

2014/8/8

www.momsacrossamerica.com Contact
Zen Honeycutt
info@momsacrossamerica.com

- **Infertility can also be explained:** Sperm mobility depends on manganese

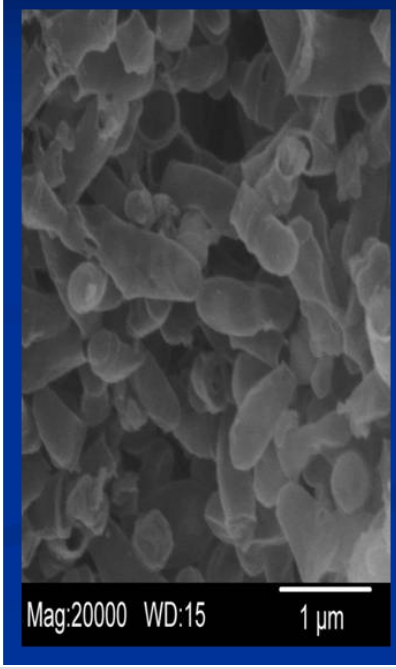
  不育的原因是：精子的活性取决于锰

Transmission Electron Microscope Images (38,250 X)
透射式电子显微镜图像（38,250 倍）

Scanning Electron Microscope Image, 20,000 X
扫描电子显微镜图像，20,000 倍

38,250 X magnification
放大 38,250 倍

Size relative to a bacterium
相对于细菌的大小

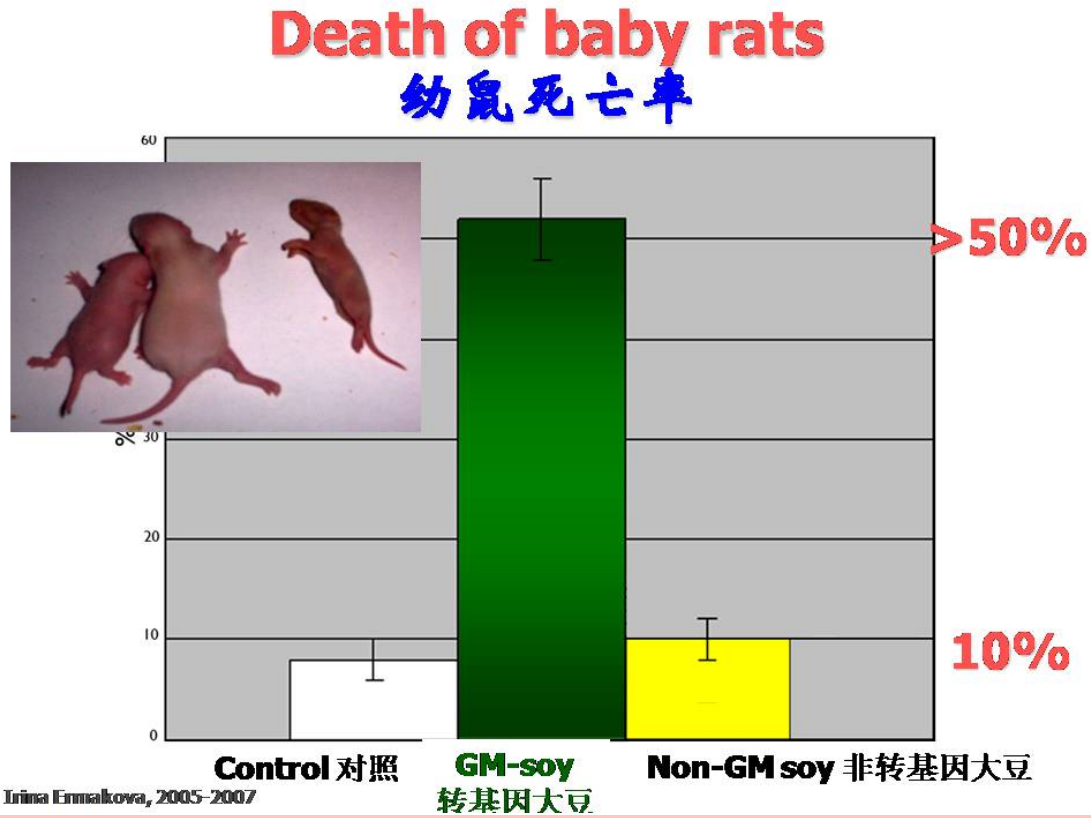


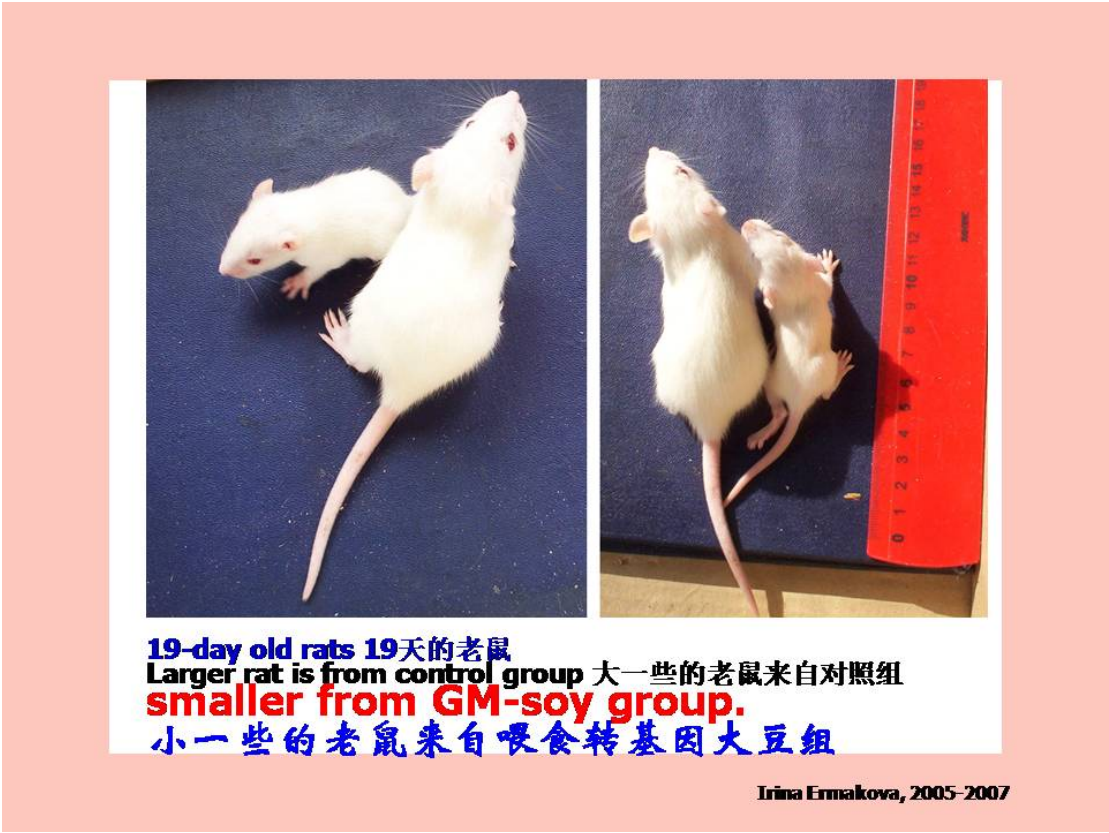
INFERTILITY

Absence of the second posterity from females and males F1.

F1 – their mothers got GM-soy

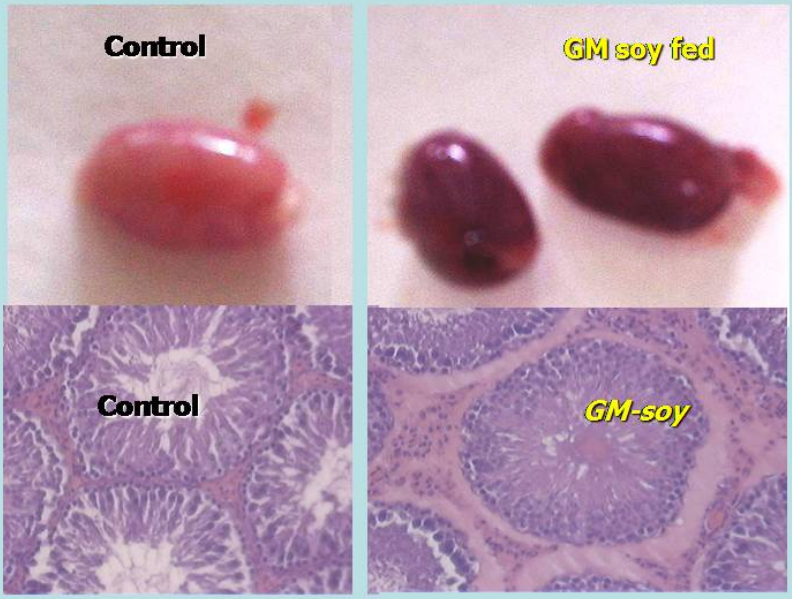
Females	Males	*Scheme of feeding by GM-soy*	*Scheme of mating*	*Number of pups F2*
12 F1	12 F1	Continuous of feeding of females and males during mating	3 females x 3 males (in turn) n = 36 variants	0
12 F1	12 F1	Feeding termination before mating	3 females x 3 males (in turn) n = 36 variants	0
12 F1	12 normal (from Control group)	Feeding termination before mating	3 females x 3 males (in turn) n = 36 variants	72 25% – infertile. Number of pups/one female ~ 8 (in norm ~ 11)


Death of baby rats
幼鼠死亡率
60
30
20
10
0
%
>50%
10%
Control 对照
GM-soy
转基因大豆
Non-GM soy 非转基因大豆
Irina Ermakova, 2005-2007


19-day old rats 19天的老鼠
Larger rat is from control group 大一些的老鼠来自对照组
smaller from GM-soy group.
小一些的老鼠来自喂食转基因大豆组
Irina Ermakova, 2005-2007

Irina Ermakova, 2010

Rat testicles 老鼠睾丸



喂食非转－对照组 喂食转基因大豆组

Uterus weights/子宫重量

25% higher in GM-fed pigs (p=0.025)

喂养转基因饲料的猪的子宫，比喂养非转基因饲料的猪的子宫，重25%(p=0.025)

GMOs in Russia: scientific researches
俄罗斯的转基因作物：科学研究

2010. Change of physiological parameters of mammals feeding GM ingredients of plant origin. Animals: hamsters. Nutrition: soy-bean meal with soy beans GTS 40-3-2

2010. 饲喂含有转基因成分的饲料的哺乳动物，生理参数有变化.实验动物：仓鼠。营养：添加含有GTS 40-3-2大豆和豆饼

The study's author: Dr. Alexei Surov, PhD, A.N. Severtsov Institute of Ecology and Evolution RAS (Russian Academy of Sciences).

研究作者：Alexei Surov 博士，A.N. 聂维兹索夫博士，俄罗斯科学院生态学与进化研究所。

Results: lag in development and growth, the violation of the sex ratio in broods with an increase in the proportion of females, reducing the number of pups per litter, up to their complete lack of the second generation（third generation hasn't appeared）. There was also observed a significant reduction in reproductive capacity of males.

结果：发育和成长延迟。出生性别比例失调，雌性数量增加，每窝产仔量也减少，无法生育第二代(没有第三代)。雄性繁殖能力也极大下降。

GMO/Glyphosate Impacts our Babies
转基因作物/草甘膦影响我们的孩子

- The USA is #1 for infant deaths on day one.
- 美国是新生儿降生当天死亡人数最多的国家。
- ***We have 50% more infants who die on the first day of life than all the industrialized nations combined.***
- *出生当天婴儿的死亡人数比所有工业化国家的总和高出50%。*

www.momsacrossamerica.com Contact
Zen Honeycutt
info@momsacrossamerica.com

60

4 Epigenetics & Beyond

Epigenetic Inheritance
"What Genes Remember"

Epigenetic inheritance of acquired characters is more powerful than inheritance of genes
The experience of one generation can modify genes passed on to the next via a variety of mechanisms that blur the distinction between epigenetic and genetic ***Dr. Mae-Wan Ho***

Epigenetic Toxicology

Dr. Mae-Wan Ho

Environmental toxins can modify our genes and affect our children and grandchildren; enormous implications for risk assessment of synthetic chemical and other xenobiotics

Bisphenol A in baby bottles and other plastics cause developmental defects across generations
A common chemical bisphenol A (BPA) that leaches out from baby bottles and other containers of food and drink, when given to pregnant mice, caused gross chromosomal defects in the egg cells of her female foetuses. These female foetuses grew into adults and produced large proportions of defective embryos. It was a case of the grandmother effect spanning three generations.

Environmental & Analytical Toxicology

Antoniou et al., J Environ Anal Toxicol 2012, S:4
http://dx.doi.org/10.4172/2161-0525.S4-006

Review Article Open Access

Teratogenic Effects of Glyphosate-Based Herbicides: Divergence of Regulatory Decisions from Scientific Evidence

M Antoniou[1], MEM Habib[2], CV Howard[3], RC Jennings[4], C Leifert[5], RO Nodari[6], CJ Robinson[7*] and J Fagan[8*]

[1]Head, Gene Expression and Therapy Group, Department of Medical and Molecular Genetics, King's College London School of Medicine, UK
[2]Professor of entomology, former director, Institute of Biology, UNICAMP, and former provost of extension and community affairs, UNICAMP, São Paulo, Brazil
[3]Professor, Centre for Molecular Biosciences, University of Ulster, Northern Ireland
[4]Affiliated research scholar, Department of History and Philosophy of Science, University of Cambridge, UK
[5]Research development professor for ecological agriculture at the University of Newcastle, UK. Interests: director and trustee of the Stockbridge Technology Centre Ltd (STC), UK
[6]Professor, Center for Agricultural Sciences (department of plant science), Federal University of Santa Catarina, Brazil
[7]Research director, Earth Open Source, London, UK. Interests: editor, GM Watch, UK
[8]Director, Earth Open Source. Interests: employed at a GMO testing and certification company

Abstract

The publication of a study in 2010, showing that a glyphosate herbicide formulation and glyphosate alone caused malformations in the embryos of *Xenopus laevis* and chickens through disruption of the retinoic acid signalling pathway, caused scientific and regulatory controversy. Debate centred on the effects of the production and consumption of genetically modified Roundup Ready® soy, which is engineered to tolerate applications of glyphosate herbicide. The study, along with others indicating teratogenic and reproductive effects from glyphosate herbicide exposure, was rebutted by the German Federal Office for Consumer Protection and Food Safety, BVL, as well as in industry-sponsored papers. These rebuttals relied partly on unpublished industry-sponsored studies commissioned for regulatory purposes, which, it was claimed, showed that glyphosate is not a teratogen or reproductive toxin.

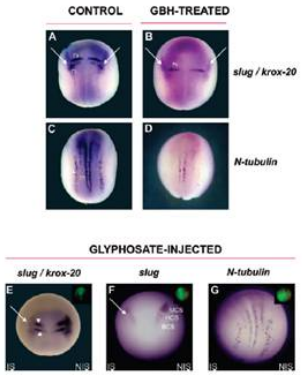
However, examination of the German authorities' draft assessment report on the industry studies, which underlies glyphosate's EU authorisation, revealed further evidence of glyphosate's teratogenicity. Many of the malformations found were of the type defined in the scientific literature as associated with retinoic acid teratogenesis. Nevertheless, the German and EU authorities minimized these findings in their assessment and set a potentially unsafe acceptable daily intake (ADI) level for glyphosate. This paper reviews the evidence on the teratogenicity and reproductive toxicity of glyphosate herbicides and concludes that a new and transparent risk assessment needs to be conducted. The new risk assessment must take into account all the data on the toxicity of glyphosate and its commercial formulations, including data generated by independent scientists and published in the peer-reviewed scientific literature, as well as the industry-sponsored studies.

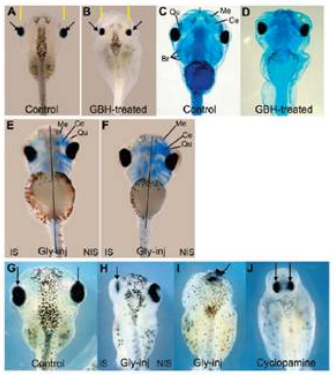
Our conclusion: ADI should be at least 3-fold lower

Glyphosate/Roundup have EDC Capability:
Retinoic Acid System

Roundup and glyphosate caused malformations in chicken and frog embryos at doses far below (~96ppm) those used in agricultural spraying (Paganelli A et al., 2010):

- **Neuronal and cranial development defects**
- **Toxicity via interference with the retinoic acid signalling pathway**





Deformity – Siamese twin (body)
Sent to a local school
畸形 - 连体双胞胎
送往当地一所学校

64

Deformities - Spinal
畸形 - 脊柱

65

Deformity - Limbs / spinal
畸形 - 四肢/脊柱



66

Deformity – soft tissue
畸形 - 软组织



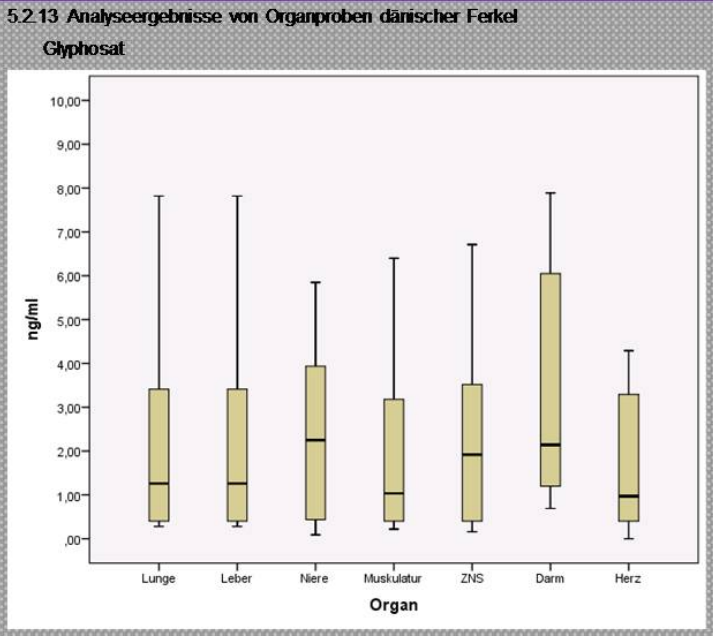



67

Deformities - Cranial
畸形 - 颅面

68

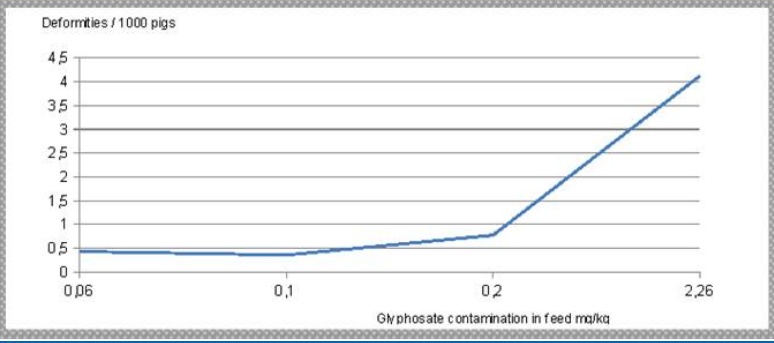
All my deformed piglets had glyphosate present in their organs!
所有畸形猪仔的器官中都检测出草甘膦!



69

There is a clear connection between Glyphosate in food and number of deformities,
饲料中草甘膦的含量与畸形的数量有着明显的联系

The graph shows cranial and spinal deformities per 1000 born in relation to Glyphosate content in the food.
该曲线图显示，每 1000 个幼崽中，颅面和脊柱畸形的数量与饲料中草甘膦含量之间的关系。
Counted on farrowings 35 days after high or low levels of glyphosate in feed.
摄入含有高或低含量的草甘膦饲料 35 天后，对产仔量进行计算。



70

先天性异常
CONGENITAL ANOMALIES

在图库曼的喷洒区，产前诊断越来越多
Increased prenatal diagnosis in sprayed areas in Tucuman

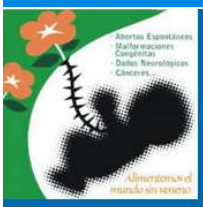
在波萨达斯的米西奥内斯医院，神经管缺陷发病率很高
High rate of neural tube defects at the Posadas, Misiones Hospital

Páramo医生：在圣达菲在马拉夫里戈，**200**个新生儿中有**12**个先天畸形
Dr. Páramo: 12 birth defects out of 200 births in Malabrigo, Sta Fé

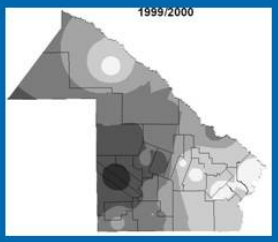
在雷西斯滕西亚，先天畸形的新生儿数量不断增加
Increased congenital birth defects: Chaco

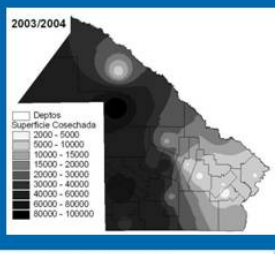
Year 年份	Cases registered by year 记录的案例	Births 出生人数
1997	46 defects	24030
2001	60 defects	21339
2008	186 defects	21.808

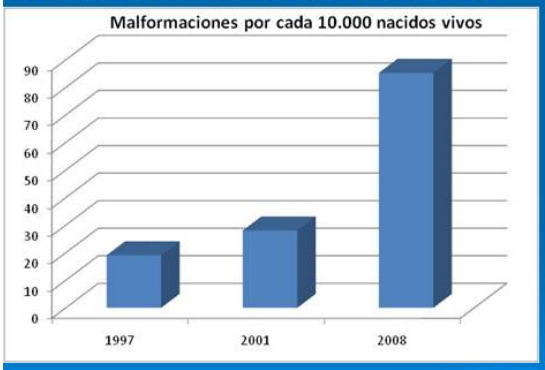
新生儿学服务医院，J.C. Perrando Neonatal Unit, Hospital J.C. Perrando.
水污染委员会的报告，Otaño医生，2010年 Report from Water Contaminants Commission. Dra. Otaño 2010

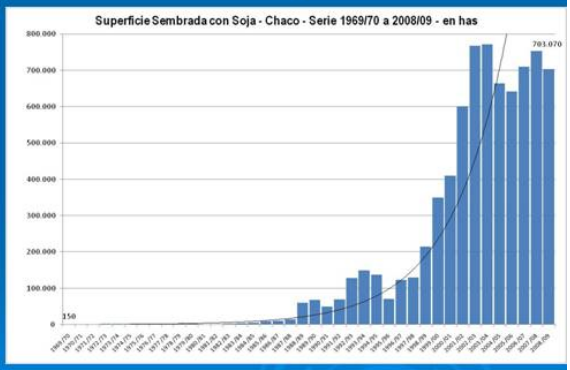


先天畸形
CONGENITAL ANOMALIES









滕西亚先天畸形儿的数量演变和大豆种植面积
Evolution of congenital birth defects and soy-cultivated areas in Chaco

Negative influence of GMO on insects

Losey J.E., Rayor L.S., Carter M.E. Transgenic pollen harms monarch larvae. Nature 399, 214 1999.

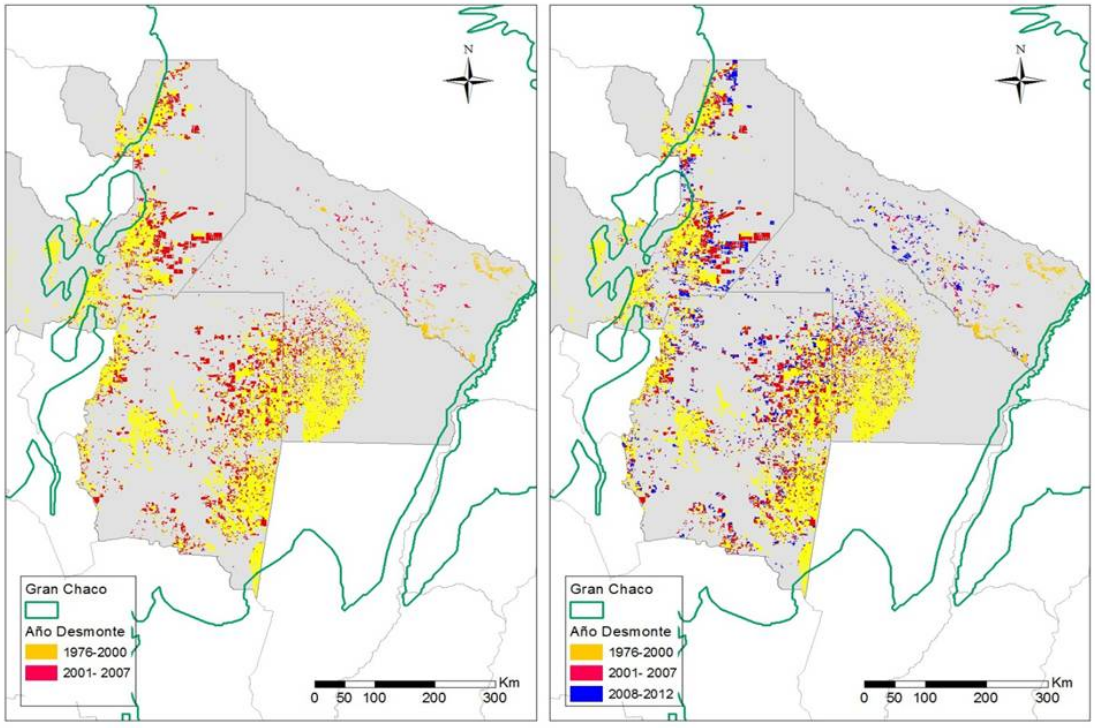
Larvae of the monarch butterfly, *Danaus plexippus*, reared on milkweed leaves dusted with pollen from *Bt* corn, ate less, grew more slowly and suffered higher mortality than larvae reared on leaves dusted with untransformed corn pollen or on leaves without pollen.

Zangerl R., McKenna D., Wraight C. L., Carroll M., Ficarello P., Warner R. and Berenbaum M. R. Effects of exposure to event 176 Bacillus thuringiensis corn pollen on monarch and black swallowtail caterpillars under field conditions. Proc Natl Acad Sci USA. 2001 98(21): 11908–11912. Bt corn could have adverse sublethal effects on black swallowtails in the field.

Birch A.N.E., Geoghegan I.E., Majerus M.E.N., Hackett C., Allen J. Interactions between plant resistance genes, pest aphid populations and beneficial aphid predators. Annual report of the Scottish Crop Research Institute 1996. P. 68-72. Reduction of life expectancy of ladybirds, fed by pest aphid, planted in GM-potatoes.

Lopatkin Oleg

Deforested area of the Chaco Region



Changeover – Economy:
Sows weaning at 7kg
开始使用非转基因大豆饲料 - 经济性：
母猪在 7 公斤的时候断奶

- Extra expenses NON-GMO soya for £90 per Ton.
- = £ -6,750
- 购买非转基因大豆饲料的额外费用为 90 欧/吨
- = - 7,0962 RMB
- **In total, a plus of : £31,000 or £ 69 per sow.**
- 总计，养猪场收入增加额： 325,904**RMB**，或每只母猪 增收 **69** 欧元。

Is this a SUPER WEED? This man is 6’ 4” tall
这是超级野草吗？这个人身高 64 英寸

Leaf disease incidence and severity have become rampant in the last 4-5 seasons.
"What is the reason for this".
在过去 4-5 个季节，叶部病害的发生率和严重激增。
"造成这一现象的原因是什么"。



Personally taken photos in Iowa fields.
照片由本人摄于爱荷华州田地

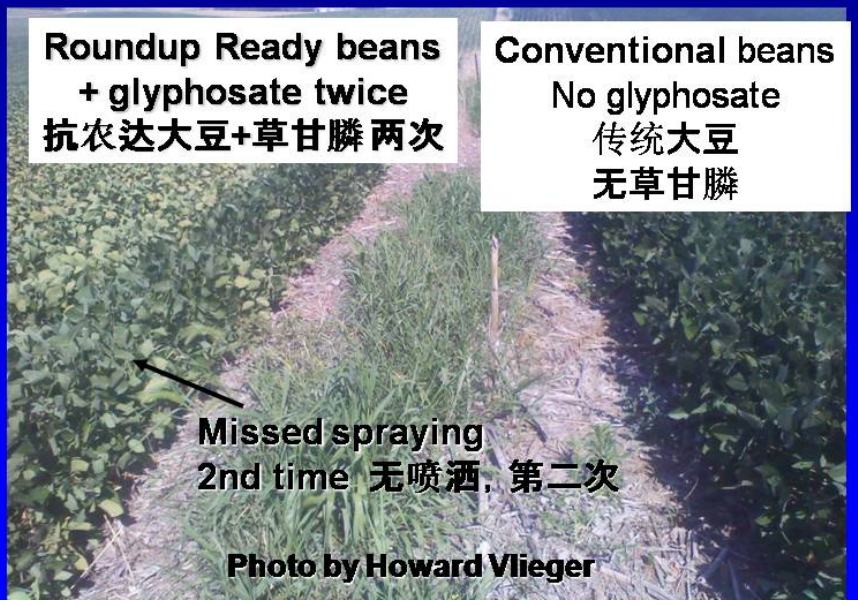
NON-GMO Corn
非转基因玉米

GMO RR Corn
转基因抗草甘膦
转基因玉米

SDS in 2010? 2010 年的 SDS?

Aerial scene of SDS affected SB fields in central Iowa 2010. Similar sight from Omaha to Beltsville, MD. The entire landscape in mid-August should be dark green. All of the grain carried the EM to the end customers. 2010 年，空中观看爱荷华州中部被猝死综合症笼罩的大豆田。从奥马哈市到马里兰州的贝茨维尔可以看到同样的景象。8 月中旬的整个风景都应该是深绿色的。所有这些谷物把致病微生物带给了终端消费者。

Does Genetic Engineering Make a Difference?
转基因会产生差别吗？
NE Nebraska, 20 12 - Severe Drought
内布拉斯加州, 2012 – 严重干旱



1997 NON-GMO and GMO Side by Side Yeild Trial Northwest Iowa

1997年在爱荷华西北部同时进行
非转基因作物和转基因作物的产量试验

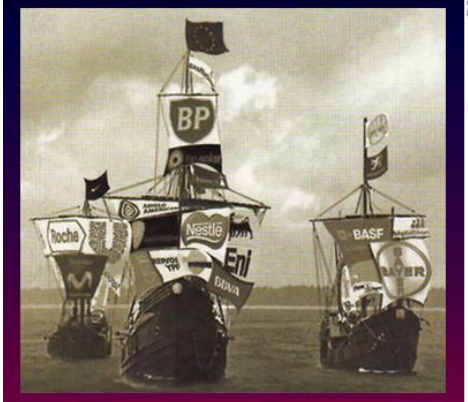
HARVEST INFORMATION 收获信息		
TEST WEIGHT 测试重量	56 磅	56 磅
HARVEST MOISTURE 所得水分	16%	21%
YIELD Bushels PER ACRE 产量蒲式耳/英亩	149.91	146.04
Adjusted price per bushel for moisture 为水分调整的价格/英亩	2.45美元	2.20 美元

Actual price $2.50 per bu. with moisture dock of $.05 per point above 15%

若水分超过15%，每超过一个点，价格降低0.05 美元，实价为2.50 美元/蒲式耳

GROSS INCOME PER ACRE总收入/英亩	367.28美元	321.29 美元
Return over inputs per acre投入收益/英亩	295.46美元	$237.47
NET LOST PROFIT From GMO CORN 转基因玉米的净损益	($57.99)LOSS PER ACRE (57.99美元)损失/英亩	

BUT....AGRIBUSINESS TRANSNATIONALS (2012)



25% LAND
40% FOREST
23% LIVESTOCK
30% WATER


welcome to the
Science Media Centre
an independent press office helping to ensure that the public have access to the best scientific evidence and expertise through the news media when science hits the headlines
find out more
for journalists
The Science Media Centre provides journalists with what they need in the timeframe they need it, from interviews with leading experts to timely press briefings on topical issues.
find out more
for scientists
As well as providing advice and support to scientists already engaging with the media, the Science Media Centre runs events to introduce experts to what that involves.
find out more
for press officers
Primarily a press office, the Science Media Centre works closely with press officers from universities, industry, research funders and leading science and engineering institutions.
find out more

Review of safety assessments
安全评估审查

28 GM crop safety assessments by FSANZ – all industry studies

《澳大利亚与新西兰食品安全机构》对28种转基因作物进行的安全性评估

–全部基于产业的研究

Animals not fed for long enough for adverse effects to develop

动物喂养时间过短，不足以产生负面影响

Number of animals too low/ 动物数量太少

Often only body weights and death rates/ 往往仅测量体重与死亡率

Organs rarely inspected internally/ 很少对内部器官进行检查

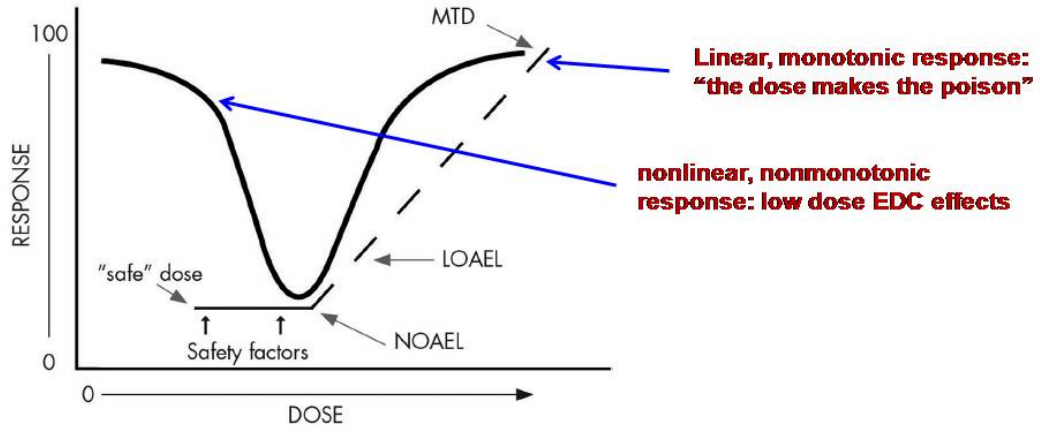
No blood biochemistry/ 不进行血液生物化学分析

Adverse findings not investigated further/ 发现负面影响后，不做进一步研究

Carman J. Is GM Food Safe to Eat? In: Hindmarsh R, Lawrence G, editors. Recoding Nature Critical Perspectives on Genetic Engineering. Sydney: UNSW Press; 2004. p. 82-93

卡曼J, 吃转基因食品是否安全？收录：对基因工程自然关键视角重新编码

EDCs: toxic at very low levels and nonmonotonic dose response



Mistakes that were made by companies during creation of GMOs and testing them in animals

- *Incorrect technologies*
- *Test of GMO influence on animals during short period*
- *Lack of investigations about influence of GMO on subsequent generations*
- *Creation of most GMOs, resistant to toxic chemical substances*
- *Incorrect scheme of animal feeding*

- All GM crops should undergo long-term safety testing on animals physiologically comparable to humans, by independent researchers, before a GM crop is commercialised, including GM crops containing "stacked" genes.
- 在出售转基因作物之前，独立研究者应对所有转基因作物（包括含
- 有“重叠”基因的转基因作物）进行长期的安全性试验，实验对象是
- 与人类生理相似的动物。

2014/8/8

Responsibility for the future未来的责任

Maximum program: to ban cultivation and usage of GMOs while scientists all over the world trying to find truth about GMOs

大项目：全球科学家找出真相前禁止种植和使用转基因作物

GMOs in Russia 俄罗斯的转基因作物

Elena Sharoykina

- Vladimir Putin: "Russia must protect its citizens from the use of foods derived from GMOs."

弗拉基米尔·普京（俄罗斯总统）：俄罗斯必须保护自己的公民免食转基因食品，同时不违反俄罗斯对 WTO 规定做出的承诺。

- CULTIVATION OF GMO ISN'T AUTHORIZED

在俄罗斯没有批准转基因种植

- LABELLING OF GM FOOD IS MANDATORY

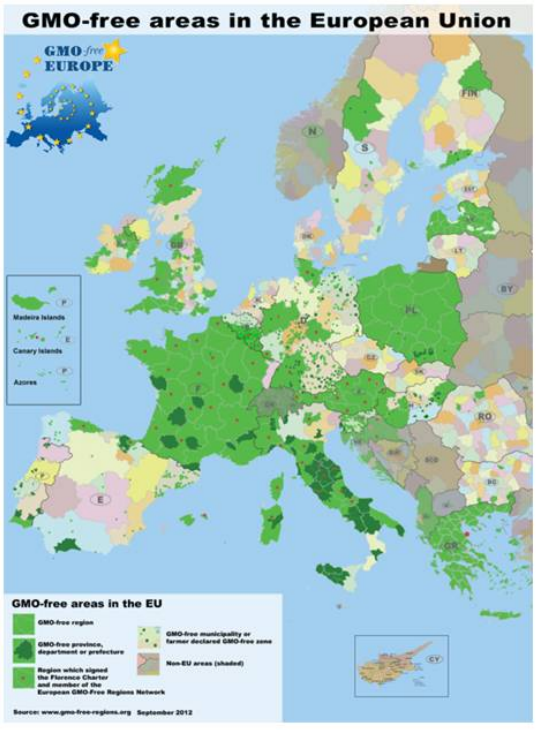
转基因食品贴标签，在俄罗斯是强制性规定。

- The Russian Government is preparing to ban the use of GMOs in baby foods.

随后几个月，俄罗斯政府准备制定合理的法规，禁止在婴儿食品中添加转基因成分。 *Elena Sharoykina*


And the Mice Prefer……
转基因玉米
GMO
Corn
老鼠选择……
非转基因玉米
Non-GMO
Corn
FRAGILE-HANDLE WITH CARE
Photos: Gilbert Hostetler

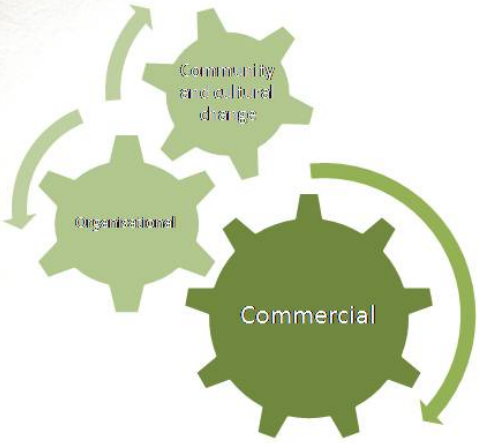
欧盟内的无转基因区域


GMO-free areas in the European Union
GMO-free EUROPE
GMO-free areas in the EU
GMO-free region
GMO-free province, department or prefecture
Region which signed the Florence Charter and member of the European GMO-Free Regions Network
GMO-free municipality or farmer declared GMO-free zone
Non-EU areas (shaded)
Source: www.gmo-free-regions.org September 2012


Come si deve.
UOVA
farmio
ŚWIEŻE JAJA
Ohne Gentechnik
gen TECHNIK FREI ERZEUGT
OHNE gen TECHNIK HERGESTELLT
Carrefour

Left and right: Na's big corn
Middle: Bayer's GMO, from Germany

How we achieve our purpose and vision



Method:

1. **Trade and market development**
2. **Growth of Organic/eco sector**
3. **Support and know-how through training and advice**
4. **Furthering the interests of regional economic strategies.**

Organic Systems

96

Genetic Roulette: The Gamble of Our Lives

Movie on GMO health risks will be available in Chinese on Sept 1st, from Amazon.com

www.ResponsibleTechnology.org