

ASK-FORCE NEWS 20090722

1. FROM PREVIOUS ASK-FORCE NEWS 20090712

this paper has been posted on July 12, 2009, I should have mentioned that *this is still a draft*, and remarks are welcome
Chassy, B. & Parrott, W. (2009)

Is This Study Believable? Examples from Animal Studies with GM Foods. In *Agricultural Biotechnology*, pp. 9.
University of California, Davis, Davis, California

<http://www.agribiotech.info/details> AND <http://www.botanischergarten.ch/Peer-Review/Chassy-Parrott-Believable-2009.doc>

a really useful text, you can evaluate easily yourself food safety experiments, soon on the following website
<http://www.agribiotech.info/details>

from Bruce Chassy, bchassy at uiuc.edu

2. LIES, DAMN LIES AND STATISTICS

The only statistics you can trust are those you falsified yourself ([source - oops](#))

First an (in)famous case of pseudo statistics: the claim is, that in Great Britain with the introduction of the transgenic soybean the allergy cases soared up: See a typical website "Spilling the Beans":

<http://www.botanischergarten.ch/Soya/Graham-Spilling-the-Beans-2007.pdf>

The message came from the York Institute as a *suggestion*, but was never published properly, but its website life is quite persistent, a classic urban legend, communicated also by Jeffrey Smith in his typical highly polemical style:

<http://www.botanischergarten.ch/Soya/Smith-Soybean-Allergy-Global-Research-2007.pdf>

Excerpt:

"Soy allergies jumped 50% in the U.K. just after GM soy was introduced. If GM soy was the cause, it may be due to several things. The GM protein that makes Roundup Ready Soy resistant to the herbicide does not have a history of safe use in humans and may be an allergen. In fact, sections of its amino acid sequence are identical to known allergens." (Mark Townsend, *Why soya is a hidden destroyer*, *Daily Express*, March 12, 1999). Remark from the AF-author: The cited York Institute statement reminds me to the wording used in tabloid newspaper astrology corners.

The credibility of this claim is contradicted with a simple slide:

<http://www.botanischergarten.ch/Soya/Soy-Allergy-Gupta-Slide-2003.pdf>

<http://www.botanischergarten.ch/Soya/Soy-Allergy-Gupta-Slide-2003.ppt>

The scientific background debunking those myths about the GM soybean allergenicity:

Two classic papers about the glyphosate-resistant soybeans

Padgette, S.R., Kolacz, K.H., Delannay, X., Re, D.B., Lavallee, B.J., Tinius, C.N., Rhodes, W.K., Otero, Y.I., Barry, G.F., Eichholtz, D.A., Peschke, V.M., Nida, D.L., Taylor, N.B., & Kishore, G.M. (1995)

DEVELOPMENT, IDENTIFICATION, AND CHARACTERIZATION OF A GLYPHOSATE-TOLERANT SOYBEAN LINE. *Crop Science*, 35, 5, pp 1451-1461

<Go to ISI>://WOS:A1995RR62100032 AND <http://www.botanischergarten.ch/Soya/Padgette-Development-RR-Soy-1995.pdf>

Padgette, S.R., Taylor, N.B., Nida, D.L., Bailey, M.R., MacDonald, J., Holden, L.R., & Fuchs, R.L. (1996)

The composition of glyphosate-tolerant soybean seeds is equivalent to that of conventional soybeans. *Journal of Nutrition*, 126, 3, pp 702-716

<Go to ISI>://WOS:A1996TZ11100015 AND <http://www.botanischergarten.ch/Soya/Padgette-Composition-RR-Soybean-1996.pdf>

About GM crops and allergenicity

Batista, R., Nunes, B., Carmo, M., Cardoso, C., Jose, H.S., de Almeida, A.B., Manique, A., Bento, L., Ricardo, C.P., & Oliveira, M.M. (2005)

Lack of detectable allergenicity of transgenic maize and soya samples. *Journal of Allergy and Clinical Immunology*, 116, 2, pp 403-410, <Go to ISI>://WOS:000235686400025 AND <http://www.botanischergarten.ch/Allergy/Batista-Lack-Allergy-Soy-Maize-2005.pdf>

Goodman, R.E., Hefle, S.L., Taylor, S.L., & van Ree, R. (2005)

Assessing genetically modified crops to minimize the risk of increased food allergy: A review. *International Archives of Allergy and Immunology*, 137, 2, pp 153-166

<Go to ISI>://000230031700009 AND <http://www.botanischergarten.ch/Allergy/Goodman-Assessment-2008.PDF>

Goodman, R.E., Vieths, S., Sampson, H., Hill, D., Ebisawa, M., Taylor, S.L., & Van Ree, R. (2008)

Allergenicity assessment of genetically modified crops—what makes sense? *Nature Biotechnology*, 26, 1, pp 73-81

<http://dx.doi.org/10.1038/nbt1343> AND <http://www.botanischergarten.ch/Allergy/Goodman-Allergenicity-GM-crops-2007.pdf>

Gupta, R., Sheikh, A., Strachan, D., & Anderson, H.R. (2003)

Increasing hospital admissions for systemic allergic disorders in England: analysis of national admissions' data. *British Medical Journal*, 327, 7424, pp 1142-1143

<Go to ISI>://WOS:000186622100021 AND <http://www.botanischergarten.ch/Allergy/Gupta-Increasing-Allergy-2003.pdf>

And all you need for debunking the myth about GM soybean allergenicity for your talks is the following slide:

<http://www.botanischergarten.ch/Soya/Soy-Allergy-Gupta-Slide-2003.pdf>

<http://www.botanischergarten.ch/Soya/Soy-Allergy-Gupta-Slide-2003.ppt>

And for the same topic on how to abuse statistics, see

FAITH BASED SCIENCE from cathy.arnold at asu.edu

<http://www.cspso.org/soapbox/view/090713P3MW/faithbased-research/>

2. NOVEL HYPOTHESIS: MULTIPLE VARIANTS OF GENES MAY PREEXIST IN “MINORITY” FORMS WITHIN NONDISEASED TISSUES.

From shane.morris at rogers.com

A scientific sensation seems to unfold: not all cells in the human body possess the same genome:

Gottlieb et al: “New sequencing techniques, such as ultra-deep pyro-sequencing, are able to overcome limitations in current sequencing protocols that effectively only sequence “majority” DNA forms, by being able to “over-sequence” individual genes thousands of times.

Using such techniques, it is likely that we will be able to much more readily identify such “minority” DNA forms as has already been achieved in the case of HIV [Wang et al., 2007].

Gottlieb, B., Lorraine E. Chalifour, Benjamin Mitmaker, Nathan Sheiner, Daniel Obrand, Cherrie Abraham, Melissa Meilleur, Tomoko Sugahara, Ghassan Bkaily, & Morris Schweitzer (2009)

BAK1 gene variation and abdominal aortic aneurysms. *Human Mutation*, 30, 7, pp 1043-1047

<http://dx.doi.org/10.1002/humu.21046> AND <http://www.botanischergarten.ch/Genomics/Gottlieb-Gene-Variation-2009.pdf>

From the abstract: we propose a novel hypothesis postulating that multiple variants of genes may preexist in “minority” forms within specific nondiseased tissues and be selected for, when intra- and/or extracellular conditions change and be selected for. Therefore, the fact that different BAK1 variants can exist in both diseased and nondiseased AA tissues compared to matching blood samples, together with the rare occurrence of these same SNPs in reference sequences, suggests that selection may be a significant factor in AAA ontogeny.

Final remarks in [Gottlieb et al. 2009] hint to previous papers:

“Up until now, few researchers have considered the possibility that multiple variants of a gene might preexist within disease-susceptible tissues, but we are beginning to observe this condition in a few cases [Alvarado et al., 2005; Molderings et al., 2007; Sircar et al., 2007], ... [Wang et al. 2007].”

Just for the really curious readers, documenting the preceding discovery history:

Alvarado, C., Beitel, L.K., Sircar, K., Aprikian, A., Trifiro, M., & Gottlieb, B. (2005)

Somatic Mosaicism and Cancer: A Micro-Genetic Examination into the Role of the Androgen Receptor Gene in Prostate Cancer. *Cancer Res*, 65, 18, pp 8514-8518 <http://cancerres.aacrjournals.org/cgi/content/abstract/65/18/8514> AND <http://www.botanischergarten.ch/Genomics/Alvarado-Somatic-Mosaicism-Cancer-2005.pdf>

Molderings, G.J., Kolck, U.W., Scheurlen, C., Bruess, M., Homann, J., & Von Kuegelgen, I. (2007)

Multiple novel alterations in *Kit* tyrosine kinase in patients with gastrointestinally pronounced systemic mast cell activation disorder. *Scandinavian Journal of Gastroenterology*, 42, 9, pp 1045 - 1053 <http://www.informaworld.com/10.1080/00365520701245744> AND <http://www.botanischergarten.ch/Genomics/Molderings-Multiple-Novel-alterations-2007.pdf>

Sircar, K., Gottlieb, B., Alvarado, C., Aprikian, A., Beitel, L.K., Alam-Fahmy, M., Begin, L., & Trifiro, M. (2007)

Androgen receptor CAG repeat length contraction in diseased and non-diseased prostatic tissues. *Prostate Cancer Prostatic Dis*, 10, 4, pp 360-368 <http://dx.doi.org/10.1038/sj.pcan.4500967>

AND

Wang, C., Mitsuya, Y., Gharizadeh, B., Ronaghi, M., & Shafer, R.W. (2007)

Characterization of mutation spectra with ultra-deep pyrosequencing: Application to HIV-1 drug resistance. *Genome Research*, 17, 8, pp 1195-1201 <http://genome.cshlp.org/content/17/8/1195.abstract> AND <http://www.botanischergarten.ch/Genomics/Wang-Characterization-Mutation-2007.pdf>

See also the comment in: <http://www.sciencedaily.com/releases/2009/07/090715131449.htm>

3. Marathon OGM <http://www.ogm.ch/start> From jean-pierre.zryd at unil.ch

An excellent Wiki and Blog from the French speaking part of Switzerland AND Europe, managed by my friend Prof. Jean-Pierre Zryd in Lausanne.

4. FINALLY TWO INTERESTING LINKS from today

1. The EuropaBio Manifesto on Green Biotechnology, with lots of good ideas and constructive suggestions
http://www.europabio.org/positions/GBE/PP_0906XX_GBE_Manifesto_2009.PDF
2. The answer of the ‘Zentrale Kommission für die Biologische Sicherheit (ZKBS)’ from the Robert Koch Institute to the scientific arguments of Minister Aigner on the negative Decision against the Monsanto Maize MON810, *soon also in English*.
http://www.bvl.bund.de/cln_027/nn_1208608/DE/06_Gentechnik/093_ZKBS/01_Allg_Stellungnahmen/04_pflanzen/Mon810-Neubewertung-Juli09.html

This report makes it crystal clear that the decision of Minister Aigner to ban MON810 is scientifically unjustified.

Klaus Ammann

<http://www.botanischergarten.ch/Curriculum/Links.pdf> updated 12. June 2009

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