

GENØK DEFENDS ITS SCIENTIFIC INTEGRITY FROM FALSEHOODS OF SWISS SCIENTIST. DEMANDS PUBLIC APOLOGY AND RETRACTION

Klaus Ammann, retired from the University of Berne, Switzerland, and guest professor at Delft University of Technology gave a presentation entitled “Do GM crops pose risks to the environment?” at the Agricultural Biotechnology International Conference (ABIC) in Cork, Ireland during August 24-27, 2008. The power point file of the talk is available on-line at: (<http://www.botanischergarten.ch/ABIC/Ammann-ABIC-Cork-20080826.ppt>). In this talk, Klaus Ammann made several public accusations of scientific fraud and misconduct against GenØk – Centre for Biosafety (www.genok.org). GenØk is a government-mandated research centre that studies the potential risks of genetically modified foods and vaccines for human health, the environment and food safety. No one from GenØk was attending ABIC.

In our humble opinion, it behoves anyone interested in fairness and accuracy to apply at least basic standards of information gathering and evidence verification from first hand sources before making such serious accusations. Klaus Ammann has made no attempt to obtain such direct evidence from anyone at our institute. Regrettably, this unfortunate situation of unfounded allegations could have been avoided, and Klaus Ammann’s confusion resolved, if basic scientific standards of evidence gathering, fitting of any responsible scientist, had been exercised (if, in fact, the quest for science and truth is the primary motivation).

Klaus Ammann is a well-known advocate of the biotechnology industry (see e.g. <http://www.monsanto.com/biotech-gmo/asp/experts.asp?id=KlausAmmann>). Since we became aware of Dr. Amman’s accusations against us, we have subsequently learned that he has engaged in similar irresponsible behavior directed at individuals and organizations that do not share his political or scientific views.

While it is unusual for GenØk to address groundless claims made by individuals, on this occasion *Klaus Amman has crossed a line by directly slandering and defaming GenØk as an institution at a public international conference.* We, therefore feel compelled to respond directly to his accusations, which are in our view irresponsible, and undermines efforts of the whole scientific community to achieve conscientious and constructive scientific discourse on the responsible use of biotechnologies in medical and agricultural applications.

We, therefore, find it necessary to respond publicly to each of his accusations. We believe that Klaus Ammann should be held accountable for his deliberate scientific misconduct.

In his presentation Klaus Ammann displayed slides stating:

- “GENOK: How you can tell *lies* with a slide..”
- “GENOK Slide *Fraud*” (repeated twice)
- “*False Information* replacing original legend”
- “Semi-holistic, *grossly misleading* approach”
- “An *alarmist paper* on the 35S promoters activities...”

Below, each of these allegations is refuted. Following that, we will discuss Klaus Ammann’s apparent incompetence at evaluating evidence and sources.

1. Accusations of “Lies”, “Fraud” and “False Information”.

These dramatic allegations can be tracked back to a table appearing in an article by Kuiper et al. from 2001 (Assessment of the food safety issues related to genetically modified foods. *Plant Journal* 27: 503-528). In the article the table looked like this:

Food safety issues 511

Table 3. Toxicity studies of proteins expressed in commercialized genetically modified crops^a

Transgene product	Tests ^{b,c}									
	SC	ID	AO	AI	SO	SE	IR	HP	BI	
Acetolactate synthase (<i>Arabidopsis thaliana</i>)	1									
12 : 0 Acyl carrier protein thioesterase (<i>Umbellularia californica</i>)	2	2	2							
1-Aminocyclopropane-1-carboxylic acid deaminase (<i>Pseudomonas chloroaphis</i>)	3	3								
Barnase (<i>Bacillus amyloliquefaciens</i>)	4									
Barstar (<i>Bacillus amyloliquefaciens</i>)	4									
Beta-glucuronidase (<i>Escherichia coli</i> K12)	5	5	5							
Bromoxynil nitrilase (<i>Klebsiella pneumoniae</i> var. <i>ozaenae</i>)	6	7								
Coat protein (cucumber mosaic virus)	8									
Coat protein (potato virus Y)	9									
Coat protein (watermelon mosaic virus 2)	8									
Coat protein (zucchini yellows mosaic virus)	8									
Cry1Ab endotoxin (<i>Bacillus thuringiensis</i> var. <i>kurstaki</i>)	10	11	12	13	11			11	11	
Cry1Ac endotoxin (<i>Bacillus thuringiensis</i> var. <i>kurstaki</i>)	14	12	12				15		16	
Cry1F endotoxin (<i>Bacillus thuringiensis</i> var. <i>aizawai</i>)	17	17	17							
Cry3A endotoxin (<i>Bacillus thuringiensis</i> var. <i>tenebrionis</i>)	18	12	12							
Cry9C endotoxin (<i>Bacillus thuringiensis</i> var. <i>tolworthi</i>)	13	13	13	13	13	13			13	
5-Enolpyruvylshikimate-3-phosphate synthase (<i>Agrobacterium</i> sp. CP4)	19	19	19							
5-Enolpyruvylshikimate-3-phosphate synthase (<i>Zea mays</i>)	20	20	20							
Glyphosate oxidoreductase (<i>Ochrobactrum anthropii</i> LBAA)	21	21	21							
Neomycin phosphotransferase II (<i>Escherichia coli</i> Tn5)	4	22	22							
Phosphinothricin acetyltransferase (<i>Streptomyces hygrosopicus</i> , bar gene)	4	23	14							
Phosphinothricin acetyltransferase (<i>Streptomyces viridochromogenes</i> , pat gene)	24	23	25							
Replicase (potato leaf roll virus)	26									

^aData from publicly available reports.

^bAO, acute oral toxicity, rodent, gavage; AI, acute intravenous toxicity, rodent, single dose; BI, binding to mammalian intestinal tissues; HP, haemolytic potential; ID, *in vitro* digestion; IR, immune response, rodent; SC, sequence comparisons with allergens and toxins; SE, sensitization, oral and intraperitoneal, rodent.; SO, subchronic oral toxicity, 4-week, rodent.

^cReferences: 1 flax Cdc Triffid Fp967, 1999 (Health Canada, 2001); 2 canola, high-laurate, DD96-08 (CFIA, 2001); 3 Reed *et al.* (1996); 4 canola MS1 xRF1, DD95-04 (CFIA, 2001); 5 EPA (2000c); 6 Bxn plus Bt cotton, 2000 (Health Canada, 2001); 7 canola Westar-oxy-235, 1997 (Health Canada, 2001); 8 Squash Czw-31999 (Health Canada, 2001); 9 potato lines SEMT15-02 etc., 1999 (Health Canada, 2001); 10 ANZFA (2000c); 11 Noteborn *et al.* (1995); 12 FIFRA SAP (2000a); 13 FIFRA SAP (2000b); 14 maize DBT418, 1997 (Health Canada, 2001); 15 Vazquez Padron *et al.* (1999); Vazquez *et al.* (1999); 16 Vazquez Padron *et al.* (2000); 17 EPA (2000d); 18 potato lines ATBT04-6 etc., 1999 (Health Canada, 2001); 19 Harrison *et al.* (1996); 20 ANZFA (2000b); 21 ANZFA (2000a); 22 Fuchs *et al.* (1993); 23 Wehmann *et al.* (1996); 24 canola HCN92, DD95-01 (CFIA, 2001); 25 maize T14 and T25, 1997 (Health Canada, 2001); 26 potato lines RBMT21-129 etc., 1999 (Health Canada, 2001).

The slides that were presented in the GenØk course

In his talk, Klaus Ammann has labelled his versions of the table as “GENOK SLIDE FRAUD” and has given them numbers 17 and 18 in his Powerpoint series.

Table 1. Toxicity studies of proteins expressed in commercialized genetically modified crops*

Transgene product	Tox ¹⁰								
	SC	ID	AO	AI	SO	SE	IR	HP	BI
Acetolactate synthase (A. nidulans thalium)	1								
12-O-Acyl carrier protein thioesterase (Ustilago zizaniiformis)	2	2	2						
1-Aminoacylase-1 (carboxylic acid deaminase) (Pseudomonas chlorophila)	3	3							
Bacstar (Bacillus amyloliquefaciens)	4								
Beta-glucuronidase (Escherichia coli K12)	5	5	5						
Bromelain inhibitor (Kluyveromyces fragilis var. ozevans)	6	7							
Coat protein (cucumber mosaic virus)	8								
Coat protein (tobacco etiolation virus Y1)	9								
Coat protein (watermelon mosaic virus 2)	8								
Coat protein (zucchini yellow mosaic virus)	8								
Cry (Ab) endotoxin (Bacillus thuringiensis var. kurstaki)	10	11	12	13					
Cry (Ac) endotoxin (Bacillus thuringiensis var. kurstaki)	14	12	12				15	16	
Cry (F) endotoxin (Bacillus thuringiensis var. aizawai)	17	17	17						
Cry (Ab) endotoxin (Bacillus thuringiensis var. jankowskii)	18	12	12						
Cry (Ac) endotoxin (Bacillus thuringiensis var. jankowskii)	13	13	13			13		13	
5-Ethylpyridoxylamine-3-phosphate synthase (Agrobacterium sp. CP4)	19	19	19						
5-Ethylpyridoxylamine-3-phosphate synthase (Zea mays)	20	20	20						
Glyphosate acetyltransferase (Chromobacterium anthracis) (BAA)	21	21	21						
Neomycin phosphotransferase II (Escherichia coli Td)	4	22	22						
Phosphotransferase acetyltransferase (Streptomyces hygroscopicus, bar gene)	4	23	14						
Phosphotransferase acetyltransferase (Streptomyces viridochromogenes, par gene)	24	23	25						
Replicase (potato leaf roll virus)	26								

GENOK: HOW YOU CAN TELL LIES WITH A SLIDE: No 1

Original table from Kuiper et al. 2001. With legend showing reference no. of each paper demonstrating no effect.

Table as given in GENOK Biosafety class as slide from Kuiper et al. 2001

Below in white: False information replacing original legend

Table 3. Toxicity studies of proteins expressed in commercialized genetically modified crops*

Transgene product	Tox ¹⁰								
	SC	ID	AO	AI	SO	SE	IR	HP	BI
Acetolactate synthase (A. nidulans thalium)	1								
12-O-Acyl carrier protein thioesterase (Ustilago zizaniiformis)	2	2	2						
1-Aminoacylase-1 (carboxylic acid deaminase) (Pseudomonas chlorophila)	2	3							
Bacstar (Bacillus amyloliquefaciens)	4								
Beta-glucuronidase (Escherichia coli K12)	5	5	5						
Bromelain inhibitor (Kluyveromyces fragilis var. ozevans)	6	7							
Coat protein (cucumber mosaic virus)	8								
Coat protein (tobacco etiolation virus Y1)	9								
Coat protein (watermelon mosaic virus 2)	8								
Coat protein (zucchini yellow mosaic virus)	8								
Cry (Ab) endotoxin (Bacillus thuringiensis var. kurstaki)	10	11	12	13					
Cry (Ac) endotoxin (Bacillus thuringiensis var. kurstaki)	14	12	12				15	16	
Cry (F) endotoxin (Bacillus thuringiensis var. aizawai)	17	17	17						
Cry (Ab) endotoxin (Bacillus thuringiensis var. jankowskii)	18	12	12						
Cry (Ac) endotoxin (Bacillus thuringiensis var. jankowskii)	13	13	13			13		13	
5-Ethylpyridoxylamine-3-phosphate synthase (Agrobacterium sp. CP4)	19	19	19						
5-Ethylpyridoxylamine-3-phosphate synthase (Zea mays)	20	20	20						
Glyphosate acetyltransferase (Chromobacterium anthracis) (BAA)	21	21	21						
Neomycin phosphotransferase II (Escherichia coli Td)	4	22	22						
Phosphotransferase acetyltransferase (Streptomyces hygroscopicus, bar gene)	4	23	14						
Phosphotransferase acetyltransferase (Streptomyces viridochromogenes, par gene)	24	23	25						
Replicase (potato leaf roll virus)	26								

Oral interpretation of the numbers: No of reported cases showing acute oral toxicity

UNINTENDED EFFECTS; SAFETY OF NEW PROTEINS

Later exaggerated to No of deaths reported due to Bt toxicity in UNEP classes

The “GENOK SLIDE FRAUD” that Klaus Ammann referred to is a low resolution approximation of an image apparently copied from a pdf provided in some years of our Biosafety capacity building courses. Klaus Ammann has never participated in any of these courses and therefore was not a witness to either how the material was presented or what the material looked like in its original form as a Powerpoint slide. The slides he bases his false accusations upon have been handed to him through unknown routes and from unknown sources. He did not even take the care to find out *who* gave the presentation that he was so upset about, nor did he bother to verify its authenticity by asking GenØk. We will here explain the history of this slide so the truth can be aired.

Together with her partners INBI of New Zealand and TWN of Malaysia, GenØk runs an annual course called “Holistic Foundations for Assessment and Regulation of Genetic Engineering and Genetically Modified Organisms” for professionals (scientists, regulators and civil society leaders) from developing countries. The course has so far been running for 6 years, lasts two weeks, and has become tremendously popular. We receive approximately 400 applications each year, and can only accept 40 participants due to economic and lab space restrictions. The course is designed and conducted by a faculty of 20 internationally recognized resource persons. The participants’ course evaluations have been highly favourable throughout all the years. The Royal Norwegian Ministry of Foreign Affairs by the Minister for International Development and Cooperation and later on Norad (Norwegian Agency for Development Cooperation) have been covering all expenses, and we have never received funding from any other source for this course. In 2004, Norad appointed an independent, external expert committee to evaluate the course. The conclusions of this external review were very positive, and the committee urged us to continue with the “core” course and to launch both regional versions of the course and also more specialized courses, requests that we have later turned into reality (for further details, see www.genok.org).

It is the normal practice of our leading lecturers to provide course notes to accompany their lectures. These are provided either as powerpoint slides or as pdf versions of the powerpoint presentations, sometimes also annotated with extensive notes beneath the slides. The first

slide that Ammann refers to features of a table reproduced with acknowledgements from a paper written by Kuiper et al. 2001. In the extensive notes beneath the image, but NOT shown by Klaus Ammann, were all relevant footnotes of the table.

This is the context and the version for presentation of the Kuiper et al. 2001 table in the GenØk course.

Safety issues of GM foods

- (i) Genetic modification process
- (ii) Safety of new proteins
- (iii) Occurrence and implications of unintended effects

WHAT TO TEST A GMO FOR

Table 3. Toxicity studies of proteins expressed in commercialized genetically modified crops^a

Transgene product	Test ^b									
	SC	ID	AD	AI	SO	SE	IS	HP	BI	
Acetolactate synthase (Alopecurus thaliana)										7
12 : 0 Acyl carrier protein thioesterase (Liriodendron californica)										2
1-Aminoacyl-tRNA synthetase (Pseudomonas chlororapida)										2
Barnase (Bacillus thuringiensis)										3
Barnase (Bacillus thuringiensis)										3
Barnase (Bacillus thuringiensis)										4
Beta-glucuronidase (Escherichia coli K12)										5
Bromelain (Ananas comosus)										6
Casein protein (Bovine casein)										7
Casein protein (Bovine casein)										8
Casein protein (Bovine casein)										9
Casein protein (Bovine casein)										10
Casein protein (Bovine casein)										11
Cry IAb (Bacillus thuringiensis var. kurstaki)										12
Cry IAc (Bacillus thuringiensis var. kurstaki)										13
Cry IIa (Bacillus thuringiensis var. kurstaki)										14
Cry IIb (Bacillus thuringiensis var. kurstaki)										15
Cry IIIa (Bacillus thuringiensis var. kurstaki)										16
Cry IIIb (Bacillus thuringiensis var. kurstaki)										17
Cry IIIc (Bacillus thuringiensis var. kurstaki)										18
Cry IV (Bacillus thuringiensis var. kurstaki)										19
Cry V (Bacillus thuringiensis var. kurstaki)										20
Cry VI (Bacillus thuringiensis var. kurstaki)										21
Cry VII (Bacillus thuringiensis var. kurstaki)										22
Cry VIII (Bacillus thuringiensis var. kurstaki)										23
Cry IX (Bacillus thuringiensis var. kurstaki)										24
Cry X (Bacillus thuringiensis var. kurstaki)										25
Cry XI (Bacillus thuringiensis var. kurstaki)										26
Cry XII (Bacillus thuringiensis var. kurstaki)										27
Cry XIII (Bacillus thuringiensis var. kurstaki)										28
Cry XIV (Bacillus thuringiensis var. kurstaki)										29
Cry XV (Bacillus thuringiensis var. kurstaki)										30
Cry XVI (Bacillus thuringiensis var. kurstaki)										31
Cry XVII (Bacillus thuringiensis var. kurstaki)										32
Cry XVIII (Bacillus thuringiensis var. kurstaki)										33
Cry XIX (Bacillus thuringiensis var. kurstaki)										34
Cry XX (Bacillus thuringiensis var. kurstaki)										35
Cry XXI (Bacillus thuringiensis var. kurstaki)										36
Cry XXII (Bacillus thuringiensis var. kurstaki)										37
Cry XXIII (Bacillus thuringiensis var. kurstaki)										38
Cry XXIV (Bacillus thuringiensis var. kurstaki)										39
Cry XXV (Bacillus thuringiensis var. kurstaki)										40
Cry XXVI (Bacillus thuringiensis var. kurstaki)										41
Cry XXVII (Bacillus thuringiensis var. kurstaki)										42
Cry XXVIII (Bacillus thuringiensis var. kurstaki)										43
Cry XXIX (Bacillus thuringiensis var. kurstaki)										44
Cry XXX (Bacillus thuringiensis var. kurstaki)										45
Cry XXXI (Bacillus thuringiensis var. kurstaki)										46
Cry XXXII (Bacillus thuringiensis var. kurstaki)										47
Cry XXXIII (Bacillus thuringiensis var. kurstaki)										48
Cry XXXIV (Bacillus thuringiensis var. kurstaki)										49
Cry XXXV (Bacillus thuringiensis var. kurstaki)										50
Cry XXXVI (Bacillus thuringiensis var. kurstaki)										51
Cry XXXVII (Bacillus thuringiensis var. kurstaki)										52
Cry XXXVIII (Bacillus thuringiensis var. kurstaki)										53
Cry XXXIX (Bacillus thuringiensis var. kurstaki)										54
Cry XL (Bacillus thuringiensis var. kurstaki)										55
Cry XLI (Bacillus thuringiensis var. kurstaki)										56
Cry XLII (Bacillus thuringiensis var. kurstaki)										57
Cry XLIII (Bacillus thuringiensis var. kurstaki)										58
Cry XLIV (Bacillus thuringiensis var. kurstaki)										59
Cry XLV (Bacillus thuringiensis var. kurstaki)										60
Cry XLVI (Bacillus thuringiensis var. kurstaki)										61
Cry XLVII (Bacillus thuringiensis var. kurstaki)										62
Cry XLVIII (Bacillus thuringiensis var. kurstaki)										63
Cry XLIX (Bacillus thuringiensis var. kurstaki)										64
Cry L (Bacillus thuringiensis var. kurstaki)										65
Cry LI (Bacillus thuringiensis var. kurstaki)										66
Cry LII (Bacillus thuringiensis var. kurstaki)										67
Cry LIII (Bacillus thuringiensis var. kurstaki)										68
Cry LIV (Bacillus thuringiensis var. kurstaki)										69
Cry LV (Bacillus thuringiensis var. kurstaki)										70
Cry LVI (Bacillus thuringiensis var. kurstaki)										71
Cry LVII (Bacillus thuringiensis var. kurstaki)										72
Cry LVIII (Bacillus thuringiensis var. kurstaki)										73
Cry LIX (Bacillus thuringiensis var. kurstaki)										74
Cry LX (Bacillus thuringiensis var. kurstaki)										75
Cry LXI (Bacillus thuringiensis var. kurstaki)										76
Cry LXII (Bacillus thuringiensis var. kurstaki)										77
Cry LXIII (Bacillus thuringiensis var. kurstaki)										78
Cry LXIV (Bacillus thuringiensis var. kurstaki)										79
Cry LXV (Bacillus thuringiensis var. kurstaki)										80
Cry LXVI (Bacillus thuringiensis var. kurstaki)										81
Cry LXVII (Bacillus thuringiensis var. kurstaki)										82
Cry LXVIII (Bacillus thuringiensis var. kurstaki)										83
Cry LXIX (Bacillus thuringiensis var. kurstaki)										84
Cry LXX (Bacillus thuringiensis var. kurstaki)										85
Cry LXXI (Bacillus thuringiensis var. kurstaki)										86
Cry LXXII (Bacillus thuringiensis var. kurstaki)										87
Cry LXXIII (Bacillus thuringiensis var. kurstaki)										88
Cry LXXIV (Bacillus thuringiensis var. kurstaki)										89
Cry LXXV (Bacillus thuringiensis var. kurstaki)										90
Cry LXXVI (Bacillus thuringiensis var. kurstaki)										91
Cry LXXVII (Bacillus thuringiensis var. kurstaki)										92
Cry LXXVIII (Bacillus thuringiensis var. kurstaki)										93
Cry LXXIX (Bacillus thuringiensis var. kurstaki)										94
Cry LXXX (Bacillus thuringiensis var. kurstaki)										95
Cry LXXXI (Bacillus thuringiensis var. kurstaki)										96
Cry LXXXII (Bacillus thuringiensis var. kurstaki)										97
Cry LXXXIII (Bacillus thuringiensis var. kurstaki)										98
Cry LXXXIV (Bacillus thuringiensis var. kurstaki)										99
Cry LXXXV (Bacillus thuringiensis var. kurstaki)										100

UNINTENDED EFFECTS: SAFETY OF NEW PROTEINS

This particular lecture’s outline was (i) Genetic modification process, (ii) Safety of new proteins, (iii) Occurrence and implications of unintended effects. The table from Kuiper et al., which Klaus Ammann is referring to, was clearly labelled in the original Powerpoint presentation and in the pdf notes as indicating that different proteins that are subject to risk assessments are subjected to a non-uniform array of tests, so that few tests have been done on all commercial products and few or no commercial products have benefited from all possible tests (as listed in the table). When turning to the Notes Page, which was part of the hand-out for the presentation, (all the original footnotes from the Kuiper publication were included) nothing is hidden away from the audience including the original footnotes. Furthermore, it becomes evident that Klaus Ammann’s allegations of “Oral interpretation: No [number] of reported cases showing acute oral toxicity” and “Later exaggerated to No [number] of deaths reported due to Bt toxicity in UNEP classes”, are wholly inaccurate. For clarity, the notes provided to the participants accompanying the Kuiper et al. table are reproduced here *de toto*:

(Quote) “Safety of new proteins”

New proteins in GMOs may come from the products of introduced genes (discussed in this slide), new products of existing genes created by insertion mutations or other effects (next slide), and existing proteins that take on new characteristics because of a change in the cellular environment (slide 3 in this series).

There are no uniform standards for testing new proteins in GMOs. The table indicates the variety and inconsistency in approaches to assessing toxicity and allergenicity, for example.

Table from {Kuiper, 2001 #1175}: “AO, acute oral toxicity; AI, acute intravenous toxicity; BI, binding to mammalian intestinal tissues; HP, haemolytic potential; ID, in vitro digestion; IR, immune response; SC, sequence comparisons with allergens and toxins; SE, sensitization, oral and intraperitoneal,.; SO, subchronic oral toxicity.” (Unquote).

Neither in the text nor during the oral presentation has the lecturer ever referred to any “reported cases showing acute oral toxicity” or to “number of deaths reported due to Bt toxicity”. This is absolutely absurd, and all that Klaus Ammann builds on is hearsay and unverified second hand information or it is the product of intentional invention by Klaus Ammann himself .

Furthermore, Klaus Ammann claims that information from the table was obscured purposefully to hide that information from the audience. In Klaus Ammann’s reproduction, there is a black stripe on the slide. In the original powerpoint, that stripe is transparent highlighting used as an animation. When the slide was converted to a pdf, the conversion obscured that column. This clearly indicates that the slide Klaus Ammann used was from a second hand source. One can only guess what his intent was, in taking one visually obscured slide out of the lecture context to launch an unfounded attack of ‘fraud’ against GenØk, decorated with additional inventions of a supposedly ‘oral presentation’ of whatever source.

Given these unfortunate revelations, it is clear to us that Klaus Ammann has demonstrated evidence gathering skills that are clearly below the standard of a research-level academic and has seriously eroded any credibility of his status as a scholar.

2. Statements of “Grossly Misleading Approach” and “An Alarmist paper”

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Kaare M. Nielsen · Terje Traavik

The 35S CaMV plant virus promoter is active in human enterocyte-like cells

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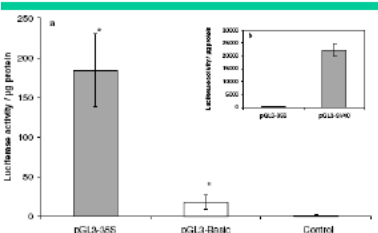


Fig. 5 Spectrophotometric quantification of Luciferase activity in Caco-2 cells. (a) Untransfected or transfected with pGL3-35S or the pGL3-basic (promoterless) plasmids. The results represent the mean plus standard deviation of four experiments with minimum three parallels of each reporter plasmids. The measured Luciferase activities were normalized for total protein. The typical protein content was 0.7–2.3 µg µl⁻¹. *Statistically significant difference ($p=0.0004$). (b) Comparison of Luciferase activity in Caco-2 cells transfected with pGL3-SV40 and pGL3-35S

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Semi-holistic, grossly misleading approach
An alarmist paper on the 35S promoters activities on animal cell cultures and *not* mentioning that we eat this promoter daily with our normal Food without ANY harm

Klaus Ammann refers to a peer-reviewed article based on experimental studies performed in the GenØk laboratories (Myhre et al. The 35S CaMV promoter is active in human enterocyte-like cells. Eur Food Res Technol 222: 185-193, 2006).

It is quite apparent to any reasonable individual that Klaus Amman could not possibly have drawn his conclusions without taking the statements in the article intentionally far out of context. The article is based on quite common experimental approaches and designs, and draws no definite conclusions about any food or feed risks related to the reported findings. Klaus Ammann has drawn his own conclusions that are extreme and unusual.

Our peer-reviewed article demonstrated that the 35S CaMV promoter drives transcription of two different reporter genes in cultures of human enterocyte-like cells. These cells were, of course, selected for the experiments because they are related to key cells at the portal of entrance for food into the human organism. In the discussion, we comment on the findings in the following ways:

(Quote)“But, irrespective of how careful and considerate selection of cell cultures has been performed, the paramount difference between *in vivo* and *in vitro* situations cannot be over-emphasized. Hence, well-designed cell culture experiments may give lead for, but never replace, *in vivo* studies.” (Unquote).

(Quote)“But so far, uptake of fragments containing the intact 35S promoter has not been directly demonstrated in any species.” (Unquote).

In his ABIC talk, Klaus Ammann’s bias is clearly revealed in the his discussion of our published research by calling it:

(Quote)“Semi-holistic, grossly misleading approach. An alarmist paper on the 35S promoter activities on animal cell cultures *not* mentioning that we eat this promoter daily with our normal Food without ANY harm”. (Unquote).

Firstly, our research findings made no claim of harm to people. Secondly, Klaus Ammann's statement to support the safety of the 35S promoter is without scientific basis as it relies on assumptions and lack of knowledge rather than scientific facts (absence of evidence is not evidence of absence of an effect).

Nobody is purposefully eating 35S promoters. Instead, people and animals eat plant materials that occasionally contain the Cauliflower Mosaic VIRUS (CaMV) (the source of the 35S promoter). The amount of intake will depend on how much *Brassicaceae* (e.g. Chinese cabbage, kale, cauliflower, cabbage) are in the diet and whether and to which extent the plants are indeed CaMV infected in that particular part of the world. So, while individuals are occasionally exposed to 35S promoters in their natural context, there are various peer-reviewed articles demonstrating that when it comes to uptake of a given DNA fragment in an organism, different contexts give different opportunities for such uptake. Hence, it is disingenuous to extrapolate, as Klaus Ammann does, from one context to another, e.g. from 35S promoters as integral parts of viral genomes, to integral parts of plant genomes.

Concluding remarks.

We would like to draw attention to the misconduct definition of the US National Academy of Sciences (1992); "Misconduct in science is defined as fabrication, falsification, or plagiarism, in proposing, performing, or reporting research. Misconduct does not include errors of judgement; errors in recording, selection, or analysis of data; differences in opinions involving the interpretation of data; or misconduct unrelated to the research process".

Viewing the ABIC presentation by Klaus Ammann, we noticed that about 1/3 of his 42 displays were attacks on scientists engaged in GMO biosafety research. We also could not help but notice that much of the biased inferences made in his presentation were largely based on a selective use of literature references, and not fitting of a reasoned scientist. All in all, we conclude that the title of the presentation was misleading, the author did not try to answer the questions he was posing ("Do GM crops pose risks to the environment"), but instead he resorted to slandering rather than scholarship to sway his audience.

In addition to the claims we have rejected here, Klaus Amman also used two slides to discuss what he called "Inhaled Bt Pollen Fraud". This referred to the findings by GenØk researchers of antibodies against Bt toxin in blood sera from villagers on the Philippines. His claims in this case are as incorrect as in the others discussed in this document. However, we will return to that case in a specific paper currently being prepared at a later date.

In conclusion, GenØk maintains that:

1. Klaus Ammann's reckless and unsupported claims of fraud are not only unconscionable, but slanderous and should not be tolerated by members of the scientific community. We at GenØk demand a public apology and retraction for his unsubstantiated claims.
2. Klaus Ammann's supporting institutions (University of Berne and Delft University) should make clear whether his behaviour is in accordance with the scientific as well as ethical standards that professional institutions should uphold.