

To whom it may concern

The purpose of this letter is to give my strongest support to G. E. Seralini, professor at the University of Caen, France.

I am aware that professor Seralini has achieved comparative studies which raised considerable recent interest. To the best of my knowledge, these investigations have been designed and analyzed according to the best professional standards, and should be considered as such.

These comparative studies have been made over relatively long periods of time. It is known to experimenters that comparative studies achieved during relatively short periods are not appropriate to detect long range toxic effects. The particular case of tumor development falls into this class, and it is no surprise that existing studies focussed on short periods did not find significant differences with respect to this factor.

I consider that professor Seralini has provided some very strong evidence to support the existence of some unexpected toxic effects of products considered previously as safe.

Obviously there will be people to question these results, since they are likely to have important industrial consequences. This should be done via further experimentation, since there is no question about the seriousness and reliability of professor Seralini's conclusions.

It is vital that this paper is published so it can be seriously studied and debated in the open.

Yours sincerely,

Dr Clive Ashworth,
Ordiefork,
Midmar,
AB51 7QL
UK.

To whom it may concern

The purpose of this letter is to give my strongest support to G. E. Seralini, professor at the University of Caen, France.

To the best of my knowledge, the investigations of Prof. Seralini have been designed and analyzed according to the best professional standards, and should be considered as such.

An interesting point is due to the fact that these comparative studies have been made over relatively long periods of time. It is known to experimenters that comparative studies achieved during relatively short periods are not appropriate to detect long range toxic effects. The particular case of tumor development falls into this class, and it is no surprise that existing studies focussed on short periods did not find significant differences with respect to this factor.

I consider that professor Seralini has provided some very strong evidence to support the existence of some unexpected toxic effects of products considered previously as safe.

Dr Didi Baev
Molecular biologist/biochemist/microbiologist, MSc, PhD
Sevlievo 5400
19 Hristo Spiridonov str.
Bulgaria

Dear colleagues,

Almost all (99.6%) "Gmos" sold in the world are pesticide Gmos. Either they produce an insecticide or they survive the absorption of a herbicide. More and more "gmos" carry now these two traits. In the great majority of cases, the herbicide is Monsanto glyphosate/Round up. The genetic construction introduced into the plant *neutralizes* the action of the glyphosate/Round up. In both cases, the pesticide enter our food. Until recently pesticides were considered as potentially toxic so that they were as much as possible kept out of our food. Now they become *constituents of our food*.

President Sarlozy condemned "pesticides gmos" some 5 years ago. Rightly so. So far, Monsanto pesticide corn Gmos are not grown in France.

As soon as 1998, the devilish plans of Monsanto were obvious as shown by the contract that Canadian farmers had to sign if they wanted to purchase Round up tolerant canola.

In the 1990's, the research and test costs of new herbicides had become out of reach. Monsanto solved the problem by changing its very successful "total" (that killed everything) herbicide glyphosate Round up, into a "specific" herbicide by the introduction of a genetic modification that made the cultivated plant (corn, soybeans, canola, cotton) tolerant to Round up. The same or similar genetic modification can be introduced into any crop, at low cost and with little testing, once the sale of the first Round up tolerant plant is authorized. The entire planet can now be drenched with glyphosate/Round up. Large areas of Argentina and Brazil are already saturated with Round up.

This is one aspect of Monsanto's plan. Just as important was the end of its patent over its profit cow, the glyphosate. The patent was ending around 2000. So that Monsanto linked the purchase of its glyphosate tolerant plant to the purchase of its branded glyphosate/ Round up. So that in effect, its patent became eternal.

Monsanto speeded ahead of its competitors. Any scientist voicing some doubts about the sanity of this strategy was immediately crushed. Monsanto's people took key positions within regulatory agencies and the US government - the revolving door policy. And endless propaganda campaign claimed that "Gmos will feed the world and protect the environment".

I add that most biologists and agronomists know that pesticides act just like addictive drugs. At first, a pesticide works (namely it kills its target).The farmer is elated. The target develop tolerance, so that higher applications are necessary - excellent profitwise for the sales and profits of the supplier of pesticide ! Later, the pesticides becomes inefficient and the addicted farmer begs the pesticide industry for a new more powerful drug. Inevitably, pests and pathogens, overcome the poisons. Pesticides are the zero level of biological, and ecological thinking and lead us into our present cowboy agriculture : shooting anything that moves, never thinking.

I wish to add two other points. Gmos are not only pesticide plants, but seed laws demand that plants be "homogeneous (all the same) and stable (the same plant should be offered for sale year after year." Seed production consists in making *copies* of a selected plant, namely "clones". So that breeding is cloning. It began in England some two centuries ago with autogamous plants (homozygous clones). In the 20th century, hybridization (that is hereozygous clones) became the favorite breeding technique simply because it creates property rights for the breeder. Gmos inevitably are clones. Incidentally, so is Dolly.

These Gmos are patented. One of the historical force that has driven breeding is the imperious quest for property rights. Breeders strongly resented the fact that plants and animals reproduce and multiply *gratis*. Patents are Terminator by law. Production is separated from reproduction. Reproduction becomes the *monopoly* of the pesticide *cartel* which has taken over the seed industry. Granting a monopoly to a cartel would anger Adam Smith out of his grave. Granting this monopoly to the death industry cartel is suicidal.

So Gmos are, in fact, Patented Pesticide Clones. We do not need any expertise to ban this kind of technology.

I support the pioneer work of Séralini and his colleagues. They have broken to omerta of the death industry.

Any sensible government would immediately ban "pesticide Gmos" and divest the pesticide industry from its control over seeds. Enough time and energy has been lost in this punk (no future) technology.

Jean-Pierre Berlan

Director of Research INRA



Dr. Pushpa M Bhargava

TO WHOMSOEVER IT MAY CONCERN

Regarding the paper, "Long term toxicity of a Roundup herbicide and a Roundup-tolerant genetically modified maize", by Gilles-Eric Sèralini, Emilie Clair, Robin. Mesnage, Steeve Gress, Nicolas Defarge, Manuela Malatesta, Didier Hennequin, and Joël Spiroux de Vendômois, published recently in Food and Chemical Toxicology, which was available online on 19th September 2012.

The above study by Gilles-Eric Sèralini and his colleagues at the University of Caen in France was long overdue. It is amazing that no one had so far done such a study to look at long-term chronic toxic effects of GM crops. The study of Sèralini and his colleagues has filled this long-felt gap. In India, many of us have been asking for such a study to be done before we may even consider releasing a GM crop.

I have been on the Editorial Board (in fact, one of the editors in the case of *Biotechnology Journal* published by John Wiley) of several major international scientific journals, and a referee for several others. Against this background, I have no hesitation in saying that the above publication of Sèraline *et al* is based on very carefully done scientific work. I would like to congratulate Dr. Sèralini as well as the editorial board of "*Food and Chemical Toxicology*" for carrying out the above work and publishing it, respectively. This work should initiate similar studies on genetically modified crops, including food crops, before their open release is even considered. In fact, the continuance of genetically modified crops already being cultivated or approved for open release, should be kept in abeyance till such a study as has been done by Sèralini's group, is conducted for such crops by independent scientists.

I am attaching a copy of my brief C.V. to establish my bonafide.

Dr. Pushpa M Bhargava
Former and Founder Director,
Centre for Cellular and Molecular Biology; Hyderabad;
Former Vice Chairman,
National Knowledge Commission, Govt. of India;
Former Member,
National Security Advisory Board;
Nominee of the Supreme Court of India on the Genetic Engineering Appraisal Committee
of the Government of India

Attachment: Brief CV

SUPPORT LETTER

A study such as the one published by Dr Séralini arise an essential question about democratic and citizen science to which most of the people and scientist are strongly attached: the question is the impartial assessment and evaluation of potential sanitary and environmental risk linked with the developments of new biotechs.

Witnessing the strong pressures made to get these research results withdrawn is shocking and contradictory with the principle of democratic science itself : anyone is entirely free to provide arguments against this study, within the frame of the normal democratic debate.

Industrial, economic or political powers that would try to ban the free expression of a researcher would prove they refuse this debate, obviously denying the principle of the Universal declaration of human rights, the democratic constitutions of the United States and France as well as the fundamental principles of the European Union

Dr Bruno Bordenave, Botanist PhD, MSc (October 17th, 2012)

Docteur du Muséum national d'histoire naturelle, spécialité Botanique tropicale (1996)

9 rue des grandes roches, 29910 Trégunc,

Finistère France

To whom it may concern

As Agronomist (University of California Davis) specialized on food crops under tropical conditions, I am scandalized by the immediate undocumented claims of some scientists against value and consistency of the Gilles Éric Séralini's 19 September 2012 paper. Those people are not reliable. I support the professor Eric Séralini as an independent scientist, and ask all the detractors to present any research they runned or referred on MGO toxicity to justify their positions. The subject is very serious because it concerns dramatically the health of a huge population throughout the world, and the global environment.

MGO have been forced through the world by corruption of the administrations, politics and some scientists....

José Brochier

Agronomist
34 160 Castries

France

Dear Editor,

Prof. Séralini's work on the inherent dangers of unleashing genetically modified food in to a rodent population is groundbreaking and vital. I completely support him and his research, and commend him on his bravery.

Unless and until the grassroots community is exposed to the hidden dangers of GMOs and responds to them with appropriate abstention, we will continue to suffer an ever growing epidemic of chronic disease.

The cattle ranchers may have greater lobbying power than the average citizen and evidence is mounting that their animals are increasingly sick and incapable of normal reproduction. It is sad to think that miscarried calves have greater lobbying power against GMOs than the human population.

Until GMOs are not allowed in the food chain, (assuming we can know WHEN we are exposed) we must vote with our forks.

More research in this critical arena must be done and published. Thank you for hosting such a forum.

Humbly and Respectfully,

Ellie Campbell, DO

Double Board certified in Family Medicine (AAFP)
and Integrative Holistic Medicine (ABIHM)

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The debate on the putative risks of genetically engineered plants (PGMs, GMOs) has unfortunately not often been based on the discussion of extant experimental data but is still limited to a fight of pro's and con's. One of the main reasons for this behavior is the lack of an acceptable protocol of risk assessment by public Agencies like EFSA. Particularly according to the guidelines, GMOs rat feeding experiments are only carried out for 90 days, rats are fed with plants treated with glyphosate and not the complete Roundup to which not only glyphosate but a number of adjuvants are added, and very few putative physiological or anatomical induced modifications are screened.

The paper by Seralini et al., offers a new holistic vision of the differences between treated and no treated rats in the sense that not only survival as such but also numbers of tumors, anatomic, metabolic, physiological, and functional problems have been screened together and all showed very clear differences between treated and control rats.

Moreover the experiments have been carried out for two years taking so into account not only toxic effects but also long time putative negative effects of GMO and commercial roundup feeding.

My opinion is that Prof.s Seralini,s group work give a great contribution in GMOs risk assessment and may offer a relevant tool for the due change in the protocols of risk assessment agencies.

Danièle Clavel (clavel@cirad.fr)
CIRAD-BIOS (Bat 1, bureau 103bis)

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October 17, 2012

CRIIGEN
(Committee for Research and Independent Information on Genetic Engineering)
criigen@unicaen.fr

Dear CRIIGEN and others it may concern:

I am appalled by efforts to force withdrawal of the recent report by Gilles-Eric Séralini et al. in *Food and Chemical Toxicology* (19 Sept. 2012 issue).

Critics of the report should present their case in the normal way of science, by published argument and debate, not by trying to exercise censorship or the moral equivalent of book burning.

I am a research scientist retired from the Biochemical Institute, Department of Chemistry, University of Texas, Austin, Texas.

Sincerely yours,

A handwritten signature in black ink that reads "DR Davis". The letters are cursive and somewhat stylized, with the "D" and "R" being particularly prominent.

Dear Sir/Madam

I would just like to add my support for Prof Séralini's vital paper disclosing the serious health effects on rats fed a GM maize for 2 years. It would seem to me highly wrong for such valuable a paper to be withdrawn on the grounds only of criticism from only GM companies - the very people with a vested in the promotion of GM and the same people who refuse to publish their findings.

Yours sincerely

Stephen Dickinson

--

Dr SJ Dickinson

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Dear colleagues,

The major study released last week by Gilles-Eric Séralini and his research team based at Caen University (Normandy, France) proves the obvious shortcomings and the problems in the GMO and pesticides safety assessment system that has been in place for 20 years in France, Europe and worldwide. Dr Séralini is currently facing a violent smear campaign with merely unfounded criticisms from researchers that are not competent to evaluate a toxicological study. The publication might be withdrawn due to strong pressure. Thus it is urgent and crucial that all over the world, researchers who support transparency and democracy, without necessarily endorsing the results, stand up for this kind of studies that challenge mainstream scientific positions against all odds. All of you are invited to voice your support through any communication mean at your disposal (blogs, newspapers, websites...) and to inform your hierarchy of your support to a contradictory and open science that preserves the public interest. Could you please keep CRIIGEN (Comité de recherche et information indépendante sur le génie génétique) informed of all initiatives taken at criigen@unicaen.fr

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Paris, October 18th, 2012

To whom it may concern

The purpose of this letter is to give my strongest support to G. E. Seralini, professor at the University of Caen, France.

I read his recent article in *Food and Chemical Toxicology* about the compared toxicity of the Roundup and a Roundup-tolerant genetically modified Maize. As a former student in Biology (at Ecole Normale Supérieure), I found the paper understandable and clear. The main conclusions are well supported by the data, and the limits of the study appear clearly.

Of course, this work raises numerous questions, but it is the case of any pioneering research, and the only scientific way to answer these questions is by further experimentation, either replicating or improving the experimental design of Seralini et al.

Agnès Ducharne
Chargée de recherche CNRS

To whom it may concern,

Scholar and researcher working on biodiversity and environment, I have been shocked by the trend that emerged in 2012 to impugn professor Seralini's motives.

A few years ago, I had the opportunity to work on professor Seralini's book "These GMOs that change the world" (Flammarion, Champs Actuel, Paris, 2004, reissued in 2010), which has been edited by the major French publisher: Flammarion.

This publication shows a very professional and responsible approach, which is scientifically meaningful.

Although this is not my discipline, his publication of September 2012 in "Food and Chemical Toxicology" seems to show the same concern for serious arguments and scientific experimentation, since it is based on toxicological studies which lasted two years. By a matter of fact, most previous studies by other researchers were based on much shorter tests, usually no more than three months, and using a smaller number of animals.

In this context, Professor Seralini's personal views should not be used, as such, to discredit his rigor. Or, in the same way, it would cast doubt on the value of the previous results by pro-GMOs researchers, including those obtained by laboratories interested in their dissemination. Surprisingly, these previous "favorable inclinations" did not seem to bother those who today are vehemently attacking Professor Seralini and his article in "Food and Chemical Toxicology."

One would be naive to think that researchers have no opinion or personal position. It has always been the case, from Galileo to Darwin, or the work of IPCC members on climate change... But science moves forward because researchers dare to undertake experiments and get results, the accuracy and relevance of which can be verified by others, who may agree or disagree.

Rather than trying to discredit or demonize Professor Seralini's work, those who disagree would therefore better undertake their own new experiences, with the same magnitude, or set up contradictory experiments with a rigorous methodology, in order to demonstrate that they are right.

Whatever the final outcome, science will benefit more from this approach than from the current attacks that looks like a "witch hunt" or a "media lynching" and are not following scientific ethics.

Dr Frederic Durand
Associate Professor
Department of Geography
University of Toulouse
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Muller Fabbri, MD
Assistant Professor of Pediatrics and
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October 18, 2012

To: CRIIGEN
Re: Letter in support of Dr. Gilles-Eric Seralini's paper

Dear CRIIGEN Members,

I am sending you this note to express my full support to Dr. Gilles-Eric Seralini's publication on Food and Chemical Toxicology. This study has been conducted with rigorous scientific methods and despite the fact that its conclusions might result "uncomfortable" to someone, the study fully supports the claimed conclusions. Therefore, I believe the paper should not be withdrawn in the name of that clarity and transparency that inspire that science that guides my research, as well as that of so many other honest investigators such as Dr. Seralini.

Best Regards,
Muller Fabbri, MD



Institut de Minéralogie et de Physique des Milieux Condensés
Unité Mixte de Recherche n°7590
Université P. & M. Curie –CNRS-IRD

Guillaume Ferlat
Maître de conférences

October 17, 2012

To whom it may concern,

Pr Seralini, from the University of Caen (France) has recently published an article in *Food and Chemical Toxicology*, concerning the toxicity of genetically modified maize on rats. The long period of times achieved in this study is unprecedented and therefore the results very valuable.

Many criticisms have followed since the publication: this is to some extent normal and even desirable for all scientific works. However, these criticisms should take the form of new published counter-experiments rather than denigration in non-scientific journals.

The study of Pr Seralini is not perfect; it is only a new necessary step toward a better understanding of the effects of GMO on health. It however certainly deserves publication and support from the scientific community.

Guillaume Ferlat

A handwritten signature in cursive script, appearing to read 'G. Ferlat', with a horizontal line underneath.

To FCT Editor,

The paper of Pr. Séralini presents the considerable interest to give results on long term effects of Maize RR and Round-up feeding on the health of rats. Such research has never been done on so long period although genetically modified plants (GMP) are directly or indirectly part of the human alimentation of increasing population. What is at stake is the health of hundreds of millions of persons. Behind the GMP, there are few companies of considerable economic power and influence. They develop huge world propaganda to push governmental authorities to authorize the GMP and to reduce as much as possible their regulation. Everybody will remember that these companies have even accused the persons who were requesting prudency in the spreading of these plants to be responsible of the death of millions of people in the poor countries. We know also the famous argument that consists to say that the GMPs are eaten for numerous years and for millions of people without any demonstration of health consequences. The weakness of this argument is considerable as in the main and oldest country of GMP, the USA, consumption of GMPs products are not distinguished from the non GMPs ones. In the same time, we discover, day after day, new complex health problems, very difficult to understand, to diagnose and to cure that, globally speaking, can be linked to change in the environment and way of life, including alimentation. Scientific debate on the method applied by Pr. Seralini and on his results is normal and positive. But the a priori and offensive disqualification that has followed this publication constitutes a new demonstration of the methods that powerful companies are ready to use to defend their profit. The work of Pr. Seralini questions also the arrogant certainty of scientists that have often links of interest with these companies and that have adopted an ideological pro-OGM position. They do not admit any doubt on the virtue of the biotechnology and, often, on the new technologies in general. If the results of Pr. Séralini are so evidently erroneous, it will be easy for them to demonstrate it by repeating his experience adopting a stronger experimental method. Go ahead instead of insulting. The core principle of science is the possibility to demonstrate that a result is false if it is false.

Michel Ferry

Scientific director of the Phoenix station

INRA France

At Elche, 30/09/12



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Paris, the 17th of October 2012

To whom it may concern,

The purpose of this letter is to give my support to Gilles-Eric Seralini. I am aware that Professor Seralini has achieved comparative studies which roused up considerable recent interest and discussions. To the best of my knowledge, these investigations have been designed and analysed according to the best professional standards, and should be considered as such.

A paper which brings original contributions and debate (like the article forthcoming in *Food and Chemical Toxicology*) is crucial for both the scientific field and the society.

Beyond the scientific contribution, Professor Seralini and his team offer a key occasion to discuss the relevance of the tests made until now for GMO's authorisation for spreading, farming and feeding purposes.

As a scientist, I thus consider that the publication of his work is essential, even if the work done by Seralini's team is not perfect (as all research work).

**David Flacher,
Directeur du CEPN (CNRS UMR 7234),
Coordinateur du Master Erasmus Mundus EPOG.**



C.N.R.S. & Université Paris Sud
U.M.R. 8591

Pascale Gisquet-Verrier

Directrice de recherche au CNRS

Orsay, October, 5th 2012

Dear Editor for Food & Chemical Toxicology

This letter is to support Gilles-Eric Séralini and his co-authors. I do not know him, I am not involved in the GMO dispute and I am not an expert in that field.

I am a neurobiologist working on memory. I currently use Sprague Dawley rats, and I am used to build experimental paradigms.

I must say that I was surprised by the dramatic effects reported by the medias and decided to have a look on the paper to have my own opinion. Taking the time to read the paper, I found the work well introduced, well planned, seriously analyzed and convincingly discussed, proposing possible explanation to account for their unexpected data. I heard the different criticisms that have been raised by this work and they did not convince me. It is true that Sprague-Dawley rats easily develop tumors, especially when they are getting older. However, the study compared exposed and non exposed Sprague Dawley rats. Thus differences between these groups are due to the exposure and this cannot be considered as a criticism. We are usually working on behavior with groups of rats ranging from 8-12 individuals. All the studies in the world, even those published in the most prestigious journals, consider that number as sufficient. I am not an expert in statistics, but I use them quite extensively and the analyses in the paper seem to be correctly performed.

So, while I was not a priori in favor with the position supported by the study, I was convinced by the paper. In my opinion the results are so intriguing that the first thing to do is to replicate them, and this is the only thing to do, according to a scientific position. I write you this letter because I heard that some pressure was done on you to withdraw the study and I was really shocked!

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It will really be a shame to remove this study at different levels:

-It will be a shame for "Food & Chemical Toxicology", which is known as a good and serious international journal. Can we be confident in a journal able to acknowledge under pressure that they took bad decisions?

-It will be a shame for the Reviewers who expertised this work and judged it of sufficient quality to be published.

-It will be a shame for the scientific community, to let them know that valuable and serious results can be ignored just because they do not go in the way some people which they have to go.

-and finally, it will be a shame for every citizen in the world, because people would no longer be confident with what is reported by experts and more generally by the scientific.

It is thus a great responsibility for you to decide to support this work which has been correctly evaluated by experts in the field and that everyone has to consider as they are: intriguing data that must call attention and be replicated.

I do hope that you will be able to hold out against such a strong pressure. It is important for you and for all of us!

Yours faithfully,



Pascale Gisquet-Verrier

Directrice de recherche au CNRS

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Research Director

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October 2, 2012

Dr. A. Wallace Hayes

Editor of Food and Chemical Toxicology

Dear Mr. Hayes,

I would like to commend your magazine on recently publishing the study by Seralini et al on the "Long term toxicity of Roundup herbicide and Roundup tolerant genetically modified maize."

Results in this article add new knowledge to our scientific literature. These include the surprisingly similar physiological response of the rats to all three treatments (Roundup, Roundup Ready maize, Roundup Ready maize + Roundup) relative to the control. Hormonal imbalances were associated with Roundup in previous studies. But in this new study suggests such imbalance may lead to greater problems with tumors in older female rats. Furthermore, the low threshold of response to Roundup in drinking water was biologically very significant, and *demands* further research. It is also significant that negative effects were found testing commercial Roundup formulations, which underlines the importance of testing real products rather than so-called active ingredients.

In contrast to the many (often excessive) critiques that can be read on the net these days about the study, my review of the paper suggests that it is: 1) based on careful, state-of-the art research technique; 2) does not reflect any misplaced biases but rather follows a literature-based line of reasoning; 3) clearly shows statistically significant and biologically meaningful differences between the control group and treatments with Monsanto products.

It seems to me that the most cogent critique is that insufficient numbers of rats were used for the test, especially as results involved tumors. However, the numbers of rats utilized (10 per sex per treatment) were in line with numbers suggested by OECD non-mandatory regulations. It is probable that the authors held the number of rats to the minimum in line with the high expense involved in such

experiments. It also seems probable that the authors did not expect tumors to be an outcome of the study as they conducted it as a normal regulatory study.

Monsanto's feeding trials using glyphosate tolerant corn (Hammond et al. 2004) also published by your journal (FCT 42:1003-1014), utilized twice as many rats per treatment, but most of the clinical work (clinical pathology, haematology, serum chemistry, urine chemistry) was based on analyzing only ten rats per treatment per sex as in the Seralini study. Thus logically, the same critique leveled at the Seralini study (making judgments based on 10 rats per treatment) should also be leveled at the Hammond study. On the other hand, the Hammond study could be criticized for not being as clean a design as the Seralini study as it utilized lots of un-necessary controls thereby potentially weakening or cluttering statistical analysis.

Irrespective of all this, the overall biological results of the Seralini study go in a consistent direction that is surprising, shocking, and stimulating. The social implications seem to be that: 1) we may have been short-sighted or misled in believing short-term feeding trials gave assurance of effect; 2) more long-term feeding trial research is needed by independent researchers on the subject with more rats per treatment; 3) GM crops and Roundup may not be as safe as many have wanted to believe.

The study is presently being shared and discussed in many circles, including amongst those of us still breeding maize without transgenic technology. One breeder colleague I know recently commented that this study puts a whole new light on the issue of food labeling. Furthermore, the study is obviously biologically pertinent (and should be of personal interest) for anyone living in the Midwest, as I do, where Roundup use and Roundup Ready maize is prevalent.

Because of the financial issues riding on perceived safety of Roundup and Roundup Ready crops, I expect major seed/chemical companies and their allies will be strictly in denial, and will continue to try to discredit the study. Irrespective of that, I would like to congratulate your magazine again on publishing these stimulating research results and opening up the field and the debate in the true progressive spirit of science.

Sincerely,

A handwritten signature in blue ink that reads "Walter A. Goldstein". The signature is written in a cursive, flowing style.

Walter A. Goldstein

To whom it may concern

I am writing to strongly assert my support to G. E. Seralini, professor at the University of Caen, France.

I am aware that professor Seralini has achieved comparative studies on GM feeding trials on rats which caused several worrying tumours and deaths.

To the best of my knowledge, these investigations have been designed and analyzed according to the best professional standards, and should be considered as such.

These comparative studies have been made over relatively long periods of time. It is known to experimenters that comparative studies achieved during relatively short periods are not appropriate to detect long range toxic effects.

Tumour development falls into this class, and it is no surprise that existing studies focussed on short periods did not find significant differences with respect to this factor.

Professor Seralini has provided some very strong evidence to support the existence of toxic effects of products considered previously as safe.

Obviously people with an interest in maintaining these GM products on sale will question these results, since they are likely to have important industrial consequences.

There should be urgent further experimentation, building on professor Seralini's work and conclusions.

These GM products should in the meantime be removed from the market.

Yours Sincerely

Catherine Greenall,

M.Phil., MRSC, C.Chem, C.Sci, CWEM
Huntscliffe House
Lancashire
UK

Dear Editor,

The recent paper published in your journal by Seralini et al. has resulted in controversy. This has led to calls to retract the paper. I strongly reject such interference in the normal and accepted processes of science, and urge you to resist such pressure. Conceding to this pressure would be to controvert the expertise of your reviewers, who have accepted the Seralini paper as fit to publish. Retraction should be done only for clear instances of abuse, such as fraud, or where subsequent information clearly demonstrates that the paper does not meet scientific standards. Neither have been shown to be the case for the Seralini paper. In general, the methodology conforms to basic standards of biological experimentation. It also advances this field of study in being one of very few long-term feeding studies using a genetically engineered crop. While some of the results are equivocal, for example the lack of statistical significance of the tumor data, this is a common occurrence in research and can be addressed on its merits by public discussion and further research.

This is not merely an issue of a single paper or author, but an example of what is now becoming a long pattern by proponents of a particular viewpoint attempting to pressure the science community to conform to its wishes. I have observed this pressure for many years, and find it corrosive to the open and unbiased functioning of the scientific process.

I urge you to adhere to the standards of the editor of the Proceedings of the National Academy of Sciences, USA, when similar efforts were made in 2007 to discredit the paper by Rosi-Marshall et al. In that case, scientists also petitioned the editor. That editor did the right thing, and rejected the demands of the protestors.

For the continued integrity of the scientific process, I strongly encourage you to reject calls to retract the Seralini paper.

Sincerely,
Doug Gurian-Sherman, Ph.D.
Senior Scientist
Union of Concerned Scientists, USA
(affiliation for purposes of identification only)

October 17, 2012

Dr. Sander Jacobs
University of Antwerp
Dept. Biology - Ecosystem Management Research Group
Universiteitsplein 1C
2610 Wilrijk
Belgium

To whom it may concern

The purpose of this letter is to support G. E. Seralini, professor at the University of Caen, France.

Professor Seralini has published a comparative study which aroused an important scientific and public debate. To the best of my knowledge, these investigations have been designed and analyzed according to professional standards, and should be considered as such.

Interestingly, the critiques that have emerged in the press and originate from many institutions with direct or indirect financial stakes in the withdrawal of these results, fail to mention that:

1. Many of the previous published studies do not by far display the rigor in design and method description. All critiques have been warded off convincingly by the authors. Consequently, arguing for withdrawal of this study would argue for withdrawal of many other studies.
2. An indication this strong concerning a population health matter calls for immediate review of earlier risk assessments, and direct investment in similar studies.

In my viewpoint, professor Seralini has provided some very strong indications for existence of toxic effects of products considered previously as safe. Although this is a very serious matter which concerns human health of the broad population, there is an obvious important economic consequence for the companies involved as well as their dependent research groups.

This debate should continue scientifically, via further experimentation, since there is no question about the seriousness and reliability of professor Seralini's conclusions. A withdrawal would seriously damage the credibility of the journal and the scientific community as a whole.

Sander Jacobs

A handwritten signature in blue ink, appearing to read 'Sander Jacobs', with a stylized flourish extending to the right.

Committee for Research and Independent Information on Genetic Engineering

Dear Committee,

I am not a scientist, but I am a philosopher of science, and I have had a longstanding interest in the study of GM food products.

I have heard that Prof Seralini's paper disclosing the serious health effects on rats fed a GM maize for 2 years is in danger of being withdrawn. This kind of long term study has not been done before. It's results cannot be dismissed without further empirical scientific work being done.

I believe that new genetic technologies are essential for increasing world food production and am currently editing a book which addresses this need. See:

<http://www.cambridge.org/aus/catalogue/catalogue.asp?isbn=9781107026704>

There are many valuable genetic technologies available for boosting world food production of which GM is only one. If GM is to be used for this purpose, its safety must be established. This will not be done by withdrawing studies which suggest there are dangers to health resulting from eating GM food.

The only way to establish the safety, or otherwise, of GM foods is through thorough, open, and transparent scientific study. Prof Seralini has done one such study. If his study is to be faulted, it must be on the basis of further open and transparent scientific study.

With best regards,

Richard Jennings

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Dr Richard C Jennings  
Department of History and Philosophy of Science  
Free School Lane; Cambridge CB2 3RH; UK  
Dept Office: (01223) 334500

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To: Editor-in-Chief for Vision and Strategy,
Food and Chemical Toxicology
Spherix Consulting and Harvard University, 298 South Main Street, Andover, MA 01810,
USA

1st October 2012

Dear Sir

The recent study by Seralini et al published in F&TC

It has come to my notice that you are coming under pressure from representatives of the GM industry and from scientists working within the GM research community following the 19 September publication of the paper by Seralini et al. This is entirely expected. This is what the GM community does -- after all, its very existence is under threat. It has always operated on the basis that when any research is published which demonstrates harm associated with the consumption of GM products, it is easier to shoot the messenger than to refute the science.

I am not a GM research scientist, but as someone who has taught in the fields of environmental science and earth science, I know good science when I see it, and having looked carefully at the paper in question it seems to me to be fastidious, carefully planned (under unbelievably difficult circumstances) and honestly reported. The paper is entirely worthy of publication in a journal such as yours, having reported toxic effects which are of huge significance for public health.

Having examined the criticisms of some of the loudest and most vicious of Seralini's opponents, I have to say that many of them are laughable, having apparently been made by people who have either not read the paper or who have never themselves conducted an animal feeding trial. The usual names crop up over and over again in these vindictive personal attacks on Seralini and his colleagues; some of them were personally involved in the campaign to destroy the reputation of Arpad Pusztai in 1999, and others were involved in the attack on Irina Ermakova in Nature Biotechnology (in the famous affair of the dummy proof) a few years ago. When I see science reduced to personal vilification I am saddened, to say the least.

Two further points.

First, the "scientific furore" in which you are apparently caught up is of course both disingenuous and carefully manufactured. The number of scientists who are making all the noise at the moment is actually quite small. But they use megaphones, and they have used the GM industry's PR machine -- and shady organizations like the Science Media Centre -- to promote their views. They also have a compliant media to work with, and journalists who prefer to write about scientific disputes rather than concentrating on the essential message of the Seralini et al paper -- namely that NK603 maize and Roundup both appear to be toxic to mammals.

Second, the findings by Seralini and his team are entirely expected. Ever since the publication of the Ewen / Pusztai paper in 1999 it has been apparent that there is something in the GM transformation process that triggers a chronic toxic response in mammals. There are now scores of papers in the literature that demonstrate this, even in the context of 90-day feeding trials where the effects are subtle and inevitably subject to scientific debate. The GM

industry flags up the scores of studies which apparently show "no harm" associated with the consumption of GM materials, while failing to remind us that most of these studies were NOT safety studies but were studies designed to demonstrate nutritional equivalence. The GM corporations and the national regulators have connived in the perpetration of the myth that GM products are safe. Well, now they have all been rumbled, and it is entirely to your credit that you have published this first long-term feeding study to show dramatic toxic effects associated with Roundup and the GM transformation process.

I therefore welcome the publication of this seminal paper, and congratulate the journal on publishing it. If the GM industry wants to refute the findings of the Seralini team, let it repeat and improve upon their experiments in a spirit of mutual respect and in search of the truth. That is how science should be done.

Yours sincerely,

Dr Brian John
Durham University, UK (retired)

Richard MAIRE
CNRS Research Director
National Center of Scientific Research
University of Bordeaux 3

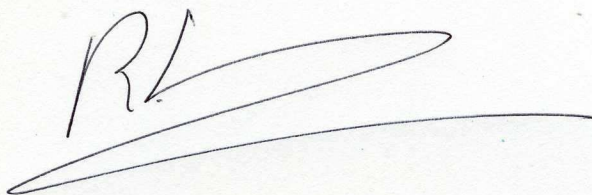
Bordeaux October 17, 2012

To whom it may concern

Through this letter I would like to support strongly Professor Gilles Eric Seralini, University of Caen (France). The remarkable work accomplished during two years by his team with the best standards is a first. As the results demonstrate some evident toxic effects on rats, we are not surprised by the arguments advanced by critics from industry and their lobbys.

Because human health and human care are an inalienable public good, it is crucial to let researchers work freely, especially if the results show some differences with the other studies. The authentic scientific research is not dependant of industrial and merchant interests. For this ethical reason, and also because I am a scientist from public service (National Center of Scientific Research), specialist in natural environment, I give my full support to G.E. Seralini so he can continue such researches.

Richard MAIRE





Letter of Support for G. E. Séralini

Thursday, 18 October 2012

To Whom it May Concern:

The purpose of this letter is to register my strong support for Prof Séralini and his team to be able to conduct and publish research free from organized interference.

Their recent paper in *Food and Chemical Toxicology* raises important questions, not just for the evaluation of toxicity of one product, but also for the protocols around risk assessment itself. These are inevitably contentious issues, all the more so when linked to GMOs and to industrial interests. For these reasons it is extremely important that the journal resist organized pressure to withdraw the paper.

I cannot comment on the paper's methodological rigour, but note that (to quote the journal itself) a "formal thorough peer review process was applied to the Séralini et al. paper. The paper was published after being objectively and anonymously peer reviewed, with a series of revisions made by the authors and the corrected paper then accepted by the Editor." No paper is perfect, and critiques around methods and interpretations always occur: the classic scientific method thrives on continued debate and openness. Where there are critiques, the appropriate response is to air these in open scientific fora, or in subsequent articles, rather than simply to withdraw a publication of controversial findings.

Finally, I should stress that I am not necessarily anti-GM crops. I research (conventional) plant breeding and development; while skeptical of the benefits of GM crops, I remain open to the possibility that some GM crops could be useful in some settings. But the GM debate *is* political, and public confidence in the integrity and transparency of scientific institutions is at stake. If a respected journal withdraws a controversial paper following a pressure campaign, this just further undermines public trust (already weak) in the integrity of scientific institutions. And when such trust is gone, the space for important debates on science and society become small indeed.

Sincerely,

Shawn McGuire, PhD

Senior Lecturer, Natural Resources and Development
Director of Teaching and Learning
School of International Development
University of East Anglia, Norwich, UK

Dear Sir/Madam

I am not a practicing scientist but studied microbiology some 20 years ago. However, I feel compelled to write to you in the name of transparency and democracy in science.

If GM truly is going to help feed the world and help us adapt to climate change, isn't it common sense that any study suggesting a problem be rigorously examined. Dr Séralini's paper should not be withdrawn and the importance of its results denied or ignored. It should be the starting point for more rigorous research, with agreed methodologies and analyses. Research should be cross-disciplinary – something akin to an IPCC for GM.

We cannot have a repeat of the Árpád Pusztai affair. For years scientists who have found negative effects from consuming GM food have been silenced and ridiculed. This has to stop if science is to be a tool for the good of humanity.

Dr. Mandy Meikle (PhD, BSc)
42 Woolfords
West Calder
EH55 8LH
Scotland, UK

Nicolas Morel, Dr. Physicist
Solar Energy & Building Physics Laboratory (LESO-PB)
Ecole polytechnique fédérale de Lausanne (EPFL)
Station 18
1015 Lausanne, Switzerland
e-mail: nicolas.morel@epfl.ch

To whom it may concern

Lausanne, October 21st, 2012

As a scientist, I would like to give all my support to Prof. Gilles-Eric Seralini and to the study he was carrying out with his collaborators at the University of Caen, concerning the long term effects of GMO food on rats. I worry about the very strong pressure to withdraw the publications, apparently from the powerful industries behind the GMO production.

I watched with a great interest the TV program on France 5 channel, some days ago, showing the difficulties that Prof. Seralini had to organize his study, having to fight against the GMO industries which tried to prevent the study to be carried out until its completion and now criticizing the results without solid arguments.

I especially notice the fact that his study span over long time periods, as opposed to the studies carried out by other laboratories, including the laboratories of the GMO industries themselves or the academic laboratories funded by these industries, which were only investigating the effects of the GMO over a time interval limited to some months. We all know that some illnesses only become apparent after a certain time (for instance, it was very difficult for the workers of the asbestos industry to prove, after sometimes more than 20 or 30 years in contact with this material, that their illness was actually due to asbestos; a similar issue appears for the workers in the nuclear industry). Even when scaling for the life duration ratio between rats and humans, it seems that some months are not enough to develop tumors, and the graphics shown by Prof. Seralini in the TV program on France 5 showed that clearly.

Since one of the weaknesses of Prof. Seralini's study is the relatively limited statistics, I would welcome further long term studies, in order to assess the tumor risk in a completely unambiguous way. As a former particle physicist (my PhD thesis was on the interaction of pions with nuclei and with chemical compounds containing hydrogen), I feel very concerned about the issue of statistical data handling, which is often considered in a rather unsatisfactory way. In the present case, of course further studies can help to make the assessment more solid, but maybe another statistical handling of the existing data (e.g. grouping the tests) could also show results with a smaller error margin.

For me, the currently available results show clearly that GMO should be at least temporarily forbidden in the human food, until additional long term studies will have allowed to assess the tumor risk in an unambiguous way.



Dr. Nicolas Morel.

Madame MÉVEL-NINIO Maryvonne
Retired since december 2007
Ex chercheur au CNRS(en Biologie du Développement)
A l'Institut de Génétique Humaine
Montpellier

Clos de l'ermitage
636 Avue Emile Jeanbrau
34090 Montpellier

To whom it may concern

I read very carefully the article of G-E Séralini et al., published, or in press, in the journal « Food and chemical Toxicology » : “Long term toxicity of a Roundup herbicide and a Roundup-tolerant genetically modified maize”

I consider these investigations have been designed and analyzed according to the best professional standards.

They describe long-term experiments performed on 2 years of rat lives; experiments which, up to now, had never been done (the longest experiments did not exceed 3 months). Measurements concerning very numerous vital parameters were carried out.

The results of this work are, at the very least, disturbing since they point out a precocious mortality and development of cancers in a much higher proportion in rats fed with GM food, treated or not with Roundup.

It was urgent for such long term experiments to be done in order to test potential toxic effects of GM plants used for human or cattle food.

It is extremely shocking and even revolting to be informed that the great agro-alimentary groups use all their power to avoid such experiments to be done. Shocking also to see these groups supported by governmental instances.

I consider that great consideration and attention should be taken to Pr. Séralini results.

The article, however, presents results which were not expected at all; Non-treated GM maize has a toxic effect. It is also to be noticed that the experiments have been conducted with small rat samples.

Thus, to my point of view, money should be allocated for further experiments to be performed using larger number of rats. These further experiments should be performed in confidence.

Maryvonne Mével-Ninio

Dear Editor,

I am writing in support of the paper by Gilles-Eric Seralini et al. entitled 'Long term toxicity of a Roundup herbicide and a Roundup-tolerant genetically modified maize', published in your journal.

This paper is extremely important and is the first to report a study on the health effects of life-time feeding of a genetically modified (GM) crop. Previous studies have been terminated well before the lifespan of the tested animals, typically after 90 days. The figure of 90 days is critical, as the present paper shows, because it is only AFTER 90 days that the damage to animal health becomes obvious. Previous studies (carried out by, or on behalf of, the company that developed the GM seeds) have reported 'statistically significant' alteration to various health parameters but have dismissed them as being unimportant for one reason or another. The paper of Seralini et al. shows that those effects are actually the first signs of deteriorating health. It also follows in a line of other feeding studies by independent scientists, which invariably show that the consumption of GM crops leads to damage to various organs, the immune system, reproductive ability, etc.

There has been much criticism of the paper, such as that appearing at http://www.sciencemediacentre.org/pages/press_releases/12-09-19_gm_maize_rats_tumours.htm where a number of critics holding impressive positions have complained about some aspects of the paper. Having read these comments, I am left wondering whether they are referring to a different paper or, alternatively, whether they are commenting on this paper but have not read it. For example, several of them complain that the results for the non-GM-fed group are not given, although those results appear along with those for the treated groups. There are also criticisms of the use of rats that are prone to tumors. What is actually relevant, however, is not the type of rat but the differences in tumor development between the treated and control groups. (This type of rat is, in fact, the same as that used (and accepted) in some other studies, including the Monsanto study by Hammond et al.)

Such spurious criticisms have come to be expected when a study finds negative effects of GM crops. The critics are largely people with a vested interest in GM technology, either financially or in terms of careers. GM is a multi-billion dollar industry that has no intention of allowing itself to be closed down, not even in the interests of saving the health of people, animals and the environment worldwide. The profits from GM are enormous, and the companies cannot sell their seeds if studies like that of Seralini et al. are allowed to be published and are taken to heart by politicians and regulators.

More work like this needs to be done and to be published. Attacks by pro-GM critics must not be allowed to stifle the mounting evidence that GM crops are highly detrimental to health.

Yours sincerely,

Dr Eva Novotny
(Retired, previously at the University of Cambridge)

To whom it may concern:

After having read the above Seralini Paper (hopefully "in press" by now) and after reading the EFSA statement regarding the above study, I strongly support the publication of the Seralini study and a critical discussion of the current methods and studies to judge the risks of GMOs in food and the environment

As very recently, the EFSA has been scrutinized for intransparency and potential lack of independence from food and pesticide producing industries, the current unbalanced discussion of the Seralini paper seems totally unjustified since we all should consider the consumer and the environments safety first, when assessing GMOs and their potential risks.

Apparently this risk assessment has not been conducted independently and objectively enough to protect consumers in Europe.

Thus it is very important to openly discuss pitfalls of current and previous research regarding the risks from GMOs. One of the first steps should be the free publication of the Seralini study.

Thanks for your understanding and your attention to the above proposals and opinion.

Sincerely yours, TK Peters

Tim K. Peters, MD, PhD
Specialist in Pharmaceutical Medicine
Bötzenstr. 43
D-79219 Staufen i. Br. tim.k.peters@gmail.com

To whom it may concern,

I am a professor of ethics at Université Laval (Canada). I am astonished by the strong public contestation of prof. Seralini's paper on GMO. If some scientists disagree with his methods and results, they have only to replicate his study or to publish some other INDEPENDENT results. Science always advances in this way, not by lynching a scientist whose results are disturbing. For that reason, I suggest that the **scientific review *Food and Chemical Toxicology*** do not retract the paper, but invite scientists to contribute their own paper in response to Seralini's paper.

Florence Piron PhD
Dpt of Information and Communication
Université Laval
Québec (Canada)

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