

Prof. I.B. Edwards and Colin Beetles, 2012

Information about Prof. Gilles-Eric Séralini and his Australian tour in February 2012

Information Sheet

Scientists de-bunk the myths on GM crops perpetrated by anti-GM advocate Professor Gilles-Eric Seralini, University of Caen, France.

About Gilles-Eric Seralini:

- Prof Seralini has long been an anti-GM advocate and his NGO website “CRIIGEN” makes clear the position of his group in Caen.
- His research has been supported by Carrefour and Auchan with their GM-free product lines.
- He is linked to homeopathic business through publication in collaboration with Sevene Pharma, which claims to have products to detoxify the body from the toxic residues of GM crops.
- He has been supported by Greenpeace, whose anti-GM position is well known, and whose activist members have willfully destroyed GM experiments designed to evaluate environmental safety and performance of GM crops in several countries, most recent damage being the destruction of CSIRO wheat experiments in Canberra.
- His CRIIGEN website proudly proclaims “French Scientist honoured by the International Biographical Centre of Cambridge. A French magazine’s “Agriculture and Environment” section recently described this as “The price of ego”, for it turned out that for about US\$395 one can purchase this “prestigious degree”. The WA Government Department of Commerce’s lists this dubious Cambridge-based organization on WA Scam Net.

Seralini’s faulty science:

In a recent article entitled “The Science of Things That Aren’t So” (Forbes 2012-02-22), by Professor Bruce Chassy (University of Illinois) and Dr Henry Miller (former FDA Office of Biotechnology Director, and current Fellow of Scientific Philosophy and Public Policy at Stamford University, California) described Seralini as a scientist “who has made a specialty of poorly designed, irrelevant, un-interpretable (but over interpreted) experiments designed to demonstrate harm in “genetically modified” or GM plants in various highly contrived scenarios”.

His latest “science-for-propaganda” claims to show toxic effects from two toxins from a bacterium (*Bacillus thuringensis* or “Bt”) that have been introduced into many varieties of corn and cotton to enhance insect resistance. He omits to mention that spores and purified proteins for Bt have been used by organic and home gardeners since the 1920’s to control pests. They examined Bt in the presence and absence of the herbicide Roundup. As Chassy and Miller point out, they looked for, and found, the effects of three biomarkers of cell death, namely changes in the levels of several enzymes. What was wrong with Seralini’s experiment? Answer: 5 fundamental flaws:

1. Testing in a petri dish does not provide any accurate prediction of effects on an animal in the real world;

2. Almost every chemical (including table salt) is toxic to isolated cells in a petri-dish – very different from an intact organism. Animals have elaborate defense mechanisms against millions of chemicals in the environment;
3. Seralini and co-workers ignore the old adage that “the dose makes the poison”. Their claim to have used ‘agriculturally relevant doses’ is disingenuous. GM corn and soybeans contain Roundup several orders of magnitude lower than the levels they used, and Roundup is about as toxic as baking soda;
4. Their findings are rendered irrelevant by animal feeding experiments – Bt proteins do not harm animals at doses a million times higher than humans would encounter in diets; and
5. Toxicologists evaluate potential harmful effects based on dose and levels of frequency of exposure. The anticipated human exposure to Bt proteins is nil, baking or frying would denature the proteins, and if any small amounts survived they would be denatured by acid and digested in the gut.

Conclusion: Such flagrantly flawed, irrelevant experiments would never make inroads in the scientific community but the spurious findings are readily picked up by anti-GM activists.

Seralini’s myths regarding animal feeding experiments

A frequent claim made by Seralini and co-workers is that there are inadequate transparent, independent and reproducible health studies are needed for new commercial products. This claim is patently wrong.

There have been several independent reviews, including one by the European Food Safety Authority (EFSA – Food and Chemical Toxicology 2008, 46: S2-70) scientists of long term, multi-generational animal feeding studies, including those conducted by independent research institutes (Flachkowsky et al, 2007; Animal Science and Feed Technology 133:2-30).

In addition, the latest review in the journal “Food and Chemical Toxicology” (“ Assessment of the health impact of GM plant diets in long term and multigenerational animal feeding trials – a review”, Snell et al, Dec 2011 – in press) by an independent team of French and English scientists examined 12 long-term studies (more than 90 days – up to two years) and 12 multi-generational studies (from 2-5 generations).

- They examined parameters using biochemical analysis, histological examination of specific organs, hematology and detection of transgenic DNA;
- Statistical methodology was examined in each study;
- Their findings were:
 - The results of these studies do not suggest any health hazards;
 - No statistically significant differences in the results were observed;
 - Small differences found fell within the normal variation range for the parameters examined;
 - The studies provided evidence that GM plants are nutritionally equivalent to their non-GM counterparts; and
 - They concluded that (consistent with the previous EFSA panel findings) a 90 day feeding study, where required, is generally sufficient.

In summary: there are no valid, peer-reviewed studies to substantiate the claims by Seralini et al that GM crops pose any additional health risks compared with conventional crops. This was also the finding of an EFSA panel convened to review claims by Seralini in a “re-analysis” of the data on Monsanto’s corn hybrids. They found the statistics used by Seralini to be questionable, he failed to explain the dosage anomalies he encountered, and EFSA saw no valid reason to recommend any changes to their current rigorous system of gene technology regulation.

For 15 years GM food has been consumed in many countries, 160 million hectares of GM crops were grown globally in 29 countries in 2011, and not one case of illness or disease attributable to GM food has been documented. For this reason, the only thing left for anti-GM proponents in to spread the fear of what might happen, often through citing highly questionable ‘science’.

Prepared by:

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Edstar Genetics Pty Ltd, SABC, Murdoch University

Summary of a lecture presented by Gilles-Eric Seralini, CRIIGEN Laboratory, University of Caen, France, at Murdoch University, Perth, March 2, 2012.

There were 35-40 people in attendance. No reporters were present, but members of the Seralini tour entourage (Greenpeace, GenEthics, NCF) were in attendance. The audience was generally sympathetic towards Seralini but very few of them were scientists and the group included two organic farmers. There were six of us from the SABC and Bill Crabtree, agricultural consultant.

The 4pm lecture had been preceded by an earlier luncheon lecture by Seralini to a group of chefs at Fraser's Restaurant in Kings Park, Perth, an event sponsored by Greenpeace and GenEthics. Rob Broadfield had previously lambasted Seralini in his March 1 column in the West Australian newspaper's Food Section ("Broadbrush") warning his fellow chefs to not expect any balance in the talk. This could lead to a few letters.

Prior to the 4:00pm lecture (Seralini was late) we distributed an information sheet entitled "Scientists de-bunk the myths on GM crops perpetrated by anti-GM advocate Professor Gilles-Eris Seralini, University of Caen, France". This was read by most of the attendees. We also distributed a copy of the bogus award (International Scientist of the Year") purchased by Seralini (or CRIIGEN) from a Cambridge, UK based company listed on the WA Department of Commerce's "Scamnet". The WA warning notice was included with the handout.

There was an attempt by the organisers to block distribution of our handouts, but they were reminded that 1) they were on a university campus; 2) they had previously handed out promotional material themselves; and 3) they had not allowed time for a rebuttal of Seralini's work. They quickly backed down. The moderator was Felicity Newman, coordinator of the "Food for Thought" program.

Seralini's lecture:

The lecture was a rambling, disjointed effort, but the following points emerged:

- He asked that there be a debate on GM crops, and stated that his group (CRIIGEN) was the most widely published group in the GM arena, and comprised 17 biologists but also included doctors and ecologists. They had received 3 million euros in funding but he would not disclose the donors. Greenpeace was listed among the 'collaborators'. He claimed to be "not against biotechnology providing it is confined to the lab"!
- There are 20 people on his "scientific board", including a 38 year old chef, Jerome Douzelet from Barjac, who spoke after Seralini about his fears for his young family from the possibility of ingesting GM food.
- Seralini referred to lawsuits that they had apparently won (including a recent case in Germany) in order to get raw data, particularly blood test data. His group are also involved in current lawsuits in the US and India. In addition CRIIGEN have asked the Agriculture Committee in France to ban Mon 863 and 810 maize hybrids.

- He claimed some credit for the banning of the Bt Brinjal in India, claiming that the Bt toxin was produced at high levels in the plant.
- Agricultural chemicals then received attention in his lecture. He claimed over 200,000 chemicals were released for distribution over the past 60 years, including DDT, Roundup and Triazine. Their goal was to identify the 15 most serious chemicals through blood analysis.
- He alluded to three areas of concern:
 - 1) We know little about bio-accumulation;
 - 2) The EU was wrong in allowing 1-2ppm of Glyphosate in crops; and
 - 3) The combined and interactive effects of smart gene stacks (SmartStax) was not being adequately tested before approval.
- He had a whole litany of complaints about the 90 day feeding test despite the rulings by EFSA and other regulatory agencies. He claimed that long term epigenetic effects could be realized 5 generations after ingestion of GM feed! He bemoaned the fact that only 28 days was required for a blood test when the life of a lab rat is 2 years. The old 'well-worn' argument about regulatory agencies not doing testing in-house was again presented, and FSANZ was criticized.
- Next came the conspiracy theory about multinationals keeping raw data confidential, and he criticized the links between multinationals developing both GM crops and drugs (Bayer, Novartis, Dupont, etc). He peddled the fear factor in claiming that a whole host of new cancers and immune diseases could not be explained by viruses alone, leaving the implication that GM was to blame. He claimed food-linked diseases, including obesity were increasing in the US where they had been consuming GM food for 15 years, and contrasted this with Europe.
- He referred to his re-analysis of raw data on Mon 863, and despite the findings of the EFSA review (Report of an Expert panel on the Re-analysis by Seralini of Mon 863 – Doull et al) he persisted in once again arguing his case, this time attacking EFSA and denigrating the scientists concerned.
- He finally presented his first bit of "science" using in vitro analyses of liver cells to examine the effects of Bt with and without glyphosate. This provided an opportunity for some robust questioning.
- An attempt was made by an audience member to forgo questions and just hear from the chef, but the moderator was fair and allowed us to question him. He admitted that drawing any correlation between naked cells in a petri dish and the situation in living animals was questionable, and he admitted to being unable to identify any Bt taken up into the bodies of humans on animals. He was then informed that there is a difference between speculation and valid discovery. He was also taken aback when Mike Jones informed him that at the dosage levels he used (100ppm) in his in-vitro tests, a 90 kilogram man would have to ingest over 10,800 kilograms of maize to receive a comparable dosage.

Summary:

It was a poor lecture, highly disjointed, thin on science, but long on complaints and ideology. He was not good at defending what questionable science he did present, but he was largely "preaching to the choir" so few opinions were likely changed. One indisputable fact is that Seralini clearly has significant influence on some French politicians and the influence of CRIIGEN on public policy is not to be taken lightly. However, the biotech students that accompanied us did get an insight into the need to robustly question bad science, and we believe that we were able to sow some doubts in the minds of the audience about the quality of Seralini's work. He did not get a free ride!

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Anti-GM speaker draws fire

COLIN BETTLES

09 Mar, 2012 04:21 PM

AN international speaker on Genetically Modified (GM) food safety - visiting Australia as a guest of Greenpeace and other anti-biotechnology campaigners - has been criticised for promoting misleading scientific credentials.

Professor Gilles-Eric Seralini was in Australia from February 27 to March 4, lecturing on the health risks of GM foods and pesticides.

He visited Sydney, Canberra, Adelaide, Perth and Margaret River on the tour co-ordinated and promoted by anti-GM groups - the Network of Concerned Farmers, MADGE, GM Crop Watch, FOODwatch, Organic Federation of Australia, the GM-Free Australia Alliance, Gene Ethics and Greenpeace.

Professor Seralini's tour bio described him as an independent scientist from the University of Caen in France who has been an "expert adviser" for the French Government and European Union on GM foods, conducting research into the health effects of eating GM foods for the past decade.

He has also been President of the Scientific Board for the Committee for Research and Independent Information on Genetic Engineering (CRIIGEN) since 1999.

But industry sources raised concerns with Rural Press that the CRIIGEN's website credits the Professor with being recently named the "International Scientist of the year 2011" in a bogus certificate awarded by the International Biographical Centre of Cambridge, England.

They also pointed to the WA Department of Commerce's ScamNet website which contains a bulletin warning consumers about false claims made through certificates purchased from the International Biographical Centre, which has nothing to do with Cambridge University.

"How much would you be willing to pay for the title of 'International Professional of the Year'?" the ScamNet website warns.

"Well as people in Perth have been finding out via letter, the going rate is US\$325 – about AU\$358 – through a UK-based organisation called the International Biographical Centre.

"The material promoting the International Biographical Centre creates a false impression about the credentials of the organisation.

"WA ScamNet would advise people to consider carefully how much they are willing to pay for an ego boost which isn't necessarily worth the paper it is written on."

Director of the WA Agricultural Biotechnology Centre at Murdoch University in Perth, Professor Mike Jones said the CRIIGEN website "proudly" displayed Professor Seralini's certificate, despite the State government's consumer protection warning.

“You really have to wonder about his scientific credentials if he can be fooled by this scam but perhaps someone else nominated him,” he said.

“So my advice to any of you hearing Gilles-Eric Seralini is don’t be fooled by his anti-GM polemics.

“If he can be fooled by an honorary degree scam - that is not what it appears to be - what does that say about his science?

“If it was me I’d have the certificate taken down immediately but it’s still up there and I’m sure that it’s not peer reviewed.”

Professor Jones said he attended the visiting French Professor’s anti-GM talk at Murdoch University last Friday and distributed flyers warning those in attendance to be wary of the speaker’s assertions. Professor Jones said the Professor’s talk was “not designed for scientists” and had been organised by the University’s School of Media Communication and Culture.

Dr Felicity Newman from Murdoch University’s School of Media Communication and Culture said the forum successfully engaged rigorous open debate on a red button issue of public importance.

Dr Newman said she helped organise the event’s staging at Murdoch University for Greenpeace and other anti-GM groups, following an approach from the office of WA Greens MLC Lyn MacLaren.

She said the university hosted the event for free and was not paid by any other groups.

Dr Newman said both sides of the GM debate put forward strong points of view, with plenty of time left over for questioning following the Professor’s talk.

She said there was strong opposition to the Professor’s talk - with some opponents believing it should not take place - but those detractors had an opportunity to air their concerns during questioning.

Dr Newman said a “lively debate” took place and the university’s researchers had an opportunity to hear opposing points of view on the GM issue.

“I’m not a scientist but was very happy to see the issues being played out on the day and providing food for thought,” she said.

Dr Newman said the majority of the 60 attendees were largely provided by the anti-GM lobby and about 10 pro-GM audience members made their points of view known during robust debate.

She said Professor Jones succeeded in throwing doubt onto some of the points made during the talk. But the French Professor also conveyed a strong message regarding the relatively short time-frame for testing and scientific discovery for GM foods, compared to the regulatory approval processes required for drugs.

A Greenpeace spokesperson said every venue at which Professor Seralini spoke was full to capacity, with between 70 and 150 people at each lecture.

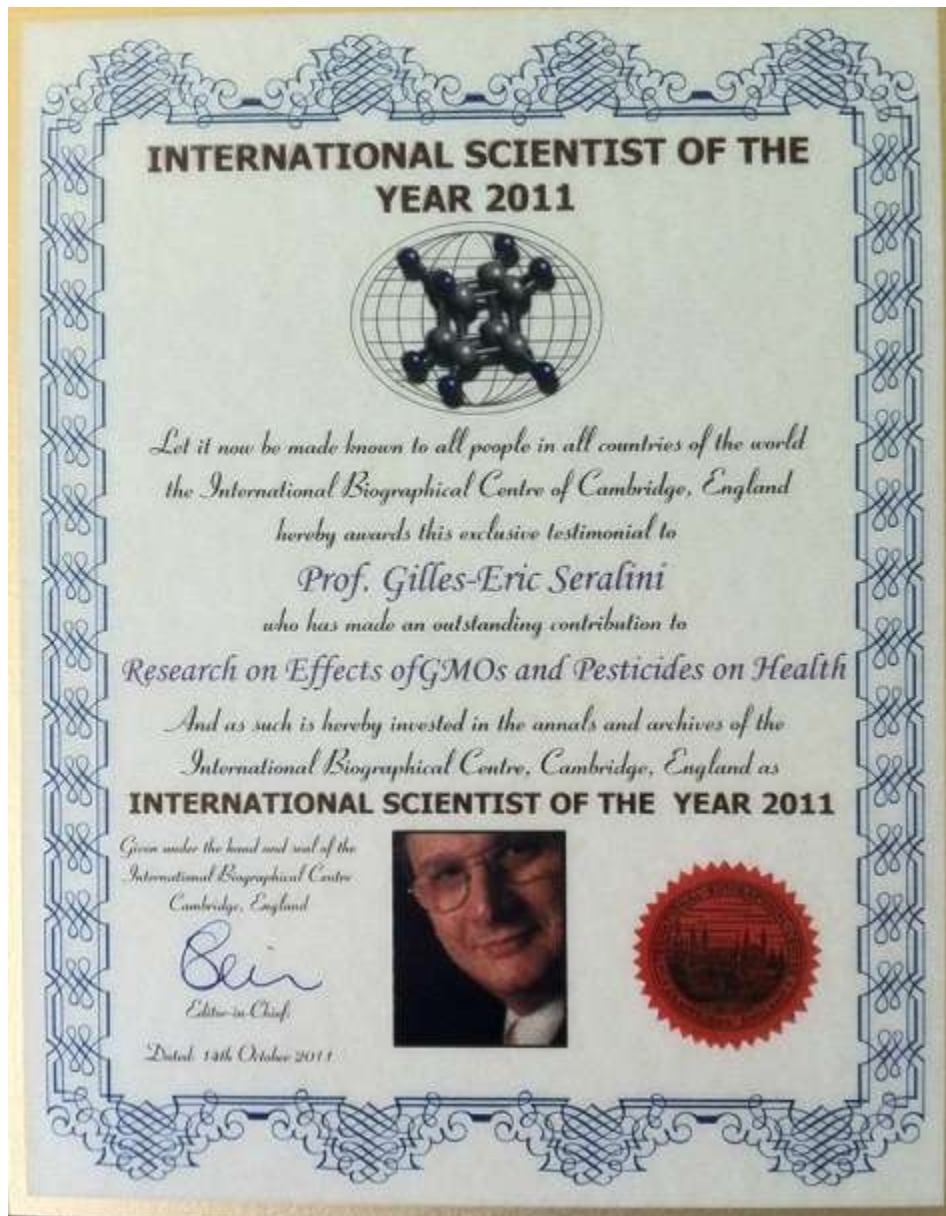
However the Professor was unavailable for comment to Rural Press, having cancelled the final speaking engagement of his tour scheduled in Perth Sunday night due to poor health and was flying out of the country.

The Greenpeace spokesperson said Professor Seralini’s central message was that “GM crops are essentially pesticide crops”.

“People were generally shocked to hear the results of Professor Seralini’s peer reviewed scientific studies,” she said.

“At the end of lectures, people asked how they could act to change food labelling and food safety assessment legislation for GM foods in Australia.”

Rural Press contacted CRIIGEN regarding its promotion of the Professor’s certificate from the International Biographical Centre but did not respond by deadline.



The fake diploma of Prof. Dr. Gilles – Eric Séralini