

Emailed responses of Dr Frank Shotkoski to GMWatch

Friday, October 02, 2015

GMWatch: Were you the source of the [BBC Panorama's] 90% success claim for Bt brinjal in its second year of cultivation in Bangladesh? If yes, where is the documented evidence backing the claim?

Dr Frank Shotkoski: The source of information came from the Bangladesh Agricultural Research Institute (BARI). BARI has an extensive On-Farm Research Division (OFRD) that provides assistance to farmers using new or experimental technologies developed by BARI. Each of the 108 Bt brinjal farmers worked with a designated OFRD representative from their respective region of Bangladesh. For each Bt brinjal field, an OFRD person made frequent field visits, recorded efficacy and yield data and provided technical guidance to the farmers to help them understand how to grow the crop properly. These data will be published in a respectable economics journal as soon as all the data has been collected and properly analyzed. At the time of the BARI press briefing where the DG BARI presented preliminary findings on the success of Bt brinjal in Bangladesh (July 28, 2015) data was still being collected because some Bt brinjal farmers were still harvesting fruits. Since the fruit and shoot borer were unable to infest the Bt brinjal, the healthy plants remained productive over a much longer period than what usually is experienced from conventional insecticide treated brinjal. I will alert you when the data is published.

I had hoped to personally visit each Bt brinjal farm, but political unrest and the hartal going on at that time made it impossible for me to travel safely to all the fields. I was able to visit about a dozen of the fields all of which were in very good condition. The farmers were quite impressed that there was no incidence of fruit and shoot borer infestation in their Bt brinjal crop. This was a considerable savings for them as insecticide applications to control the fruit and shoot borer usually constitutes over 30% of cost of production for brinjal in Bangladesh. I should note that a few (less than 10%) of the Bt brinjal farmers lost plants to bacterial wilt infection due to improper flood irrigation practices using stagnant water. The farmers were advised by their OFRD officers to avoid this method of irrigation, but not all complied and unwittingly destroyed their own crop. Every farmer I visited was excited about the technology and they were collecting seeds to share with neighboring farmers and family members to plant the crop for the next season.

The Bt brinjal product is very efficacious against the fruit and shoot borer and none of the fields experienced greater than 1% infestation from the targeted pest. Given my experience working with early adoption of new agricultural technologies, especially Bt technology for insect control, the greater than 90% success rate likely is accurate and not unexpected. It is not uncommon to lose 5-10% of research crops to some extraneous circumstance such as inclement

weather, disease or other uncontrollable agronomic factors. Your question is somewhat subjective in that I don't necessarily understand how you define success. In this case, BARI defined success by two criteria 1) a farmer producing higher yields of marketable brinjal with 2) a considerable reduction in insecticide required to control the fruit and shoot borer. Our goal is to improve the lives of resource poor farmers and this technology goes a long way to achieving that goal in terms of both financial and health.

GMWatch: The BBC is not supposed to advertise or promote corporate or other special interests. In areas other than GMOs, their journalists go out of their way to find out and declare all real and potential conflicts of interest in their interviewees. In his letter to [GMWatch], Tregear only mentioned your public university affiliation. However, you are described as (<https://www.entomology.umn.edu/2015-hodson-recipient>) "a senior level biotechnology project management and business development professional specializing in product development and commercialization of genetically engineered trait-based crop products".

You worked for biotech companies Novartis and Syngenta for six years before joining USAID, a US government programme with a mission (<http://web.archive.org/web/20020820103631/http://www.usinfo.state.gov/topical/global/develop/02061207.htm> ) of "developing local private sectors to help integrate biotech into local food systems". USAID's "training" and "awareness raising" programmes (<http://www.monbiot.com/2002/11/19/the-covert-biotech-war/> ), provide companies such as "Syngenta, Pioneer Hi-Bred and Monsanto" with opportunities for "technology transfer" into the poor world. Monsanto in turn provides financial support for USAID.

USAID's involvement in the Bt brinjal programme is through its Agricultural Biotechnology Support Program (ABSP), managed by Cornell (<http://gmwatch.org/news/latest-news/16320> ). ABSP's private sector partners include Monsanto (<http://absp2.cornell.edu/consortiumpartners/> ).

You hold inventor status on several biotechnology patents (<http://patents.justia.com/inventor/frank-shotkoski> ), including two on GM Bt toxin technology. Bt brinjal contains GM Bt toxin technology.

Did you declare any of these interests in your communication with the BBC or their journalists about Bt brinjal in Bangladesh? If not, why not?

Dr Shotkoski: I shared my bio with the BBC. Basically the same information that you found online. My only interests are to bring modern agriculture technology to resource poor farmers through public institutions as cost effectively as possible.

You infer that the BBC was advertising or promoting corporate or other special interests in the documentary on Bt brinjal in Bangladesh. I don't understand how

you come to this conclusion. There is no corporate sponsor or corporate interests associated with this product. The Bt brinjal technology was donated to BARI from Mahyco Seed Co. as a public-private partnership facilitated by ABSPII. There is no corporate involvement and no royalty associated with the technology. The Bt brinjal varieties are not patented and there are no intellectual property constraints placed on BARI for the use of the technology. The farmers will have the right to save their seed and share with others or purchase the seed from the Government of Bangladesh at a nominal cost of recovery fee for seed production.

When I worked for Novartis/Syngenta, I was fortunate to have the opportunity to bring a GM crop technology from the lab to the field. I was closely involved in the initial development of the technology, the product development activities, most of the regulatory activities and later on with the marketing, licensing and commercial development. This was a rare opportunity as the larger companies usually have specific divisions with experts to handle each of the different phases of product concept to commercialization and it is uncommon for one person to lead the entire process. This was a great experience for me as I am now one of the few people that has acquired the full complement of skills required to bring a genetically modified crop to market. Since I worked on cotton, much of my work was conducted in developing countries in Asia, Africa and South America where I witnessed firsthand the humanitarian need to help farmers in these places. These experiences are what lead me to the position that I now have at Cornell University. I have no commercial aspirations with any of the ABSPII projects that I direct. Please take note that I do not work for USAID. There was no real or potential conflict of interest regarding my role in the production of the documentary. Commercialization of the Bt brinjal product in Bangladesh is a major achievement for BARI and I am proud to have provided guidance via my role as director of ABSPII.