

Organic food can cure autism caused by GMOs? More ‘quack science’ from Dr. Oz

This is the straw that broke the viewers’ back. After watching Monday’s episode of his show, I can unequivocally say that Dr. Mehmet Oz is a pseudoscience pushing, scare-tactic wielding sensationalist of the most reprehensible kind. The fear-mongering didn’t take long to begin on the episode about *“The New GMO Pesticide Doctors are Warning Against.”*

“The health of your brain could be a casualty”

With dramatic music in the background, Dr. Oz gave an over-simplified explanation of GMOs as being created only for pesticide-resistant traits. He lamented that because of superweeds evolving to resist regular glyphosate (the pesticide commonly known as Roundup), new pesticides are required. The question at hand in the episode was whether the EPA should approve the pesticide Enlist Duo.

Can going organic cure autism?

The first guest was the founder of Moms Across America, Zen Honeycutt. With a very dire expression she stated, “not only are GMO foods sprayed with pesticides, but non-GMO foods are as well.” She continued by implying that organic foods are pesticide-free saying, “we went not only GMO free but organic, to avoid pesticides.” This is [patently false](#); organic farmers do, in fact, use pesticides on their crops.

Ms. Honeycutt proceeded with an obviously embellished if not totally fabricated story. She claimed that her son had been experiencing autism symptoms. Because her doctor saw no reason to test him for glyphosate levels, Honeycutt used a private lab which detected glyphosate levels “8 times higher than found anywhere in Europe urine testing.” Unfeasibly, she claimed that within six weeks of going “completely GMO-free and organic, his autism symptoms were gone and the level of glyphosate was no longer detectable.”

Make no mistakes – this is utter hogwash. There is no known cure for autism. If it were as simple as avoiding GMOs and pesticides, the affected foods would have been recalled. Furthermore, dietary treatment of autism has no basis in scientific evidence. If and when recommended, [dietary approaches](#) are based on adjustment of vitamin and mineral levels, or on avoiding allergens. Elimination of GMO foods is not a recommended dietary approach.

Does Enlist Duo cause cancer, Parkinson’s and other health problems?

The fear-mongering didn’t stop there. Marisa Weiss MD, President and Founder of [breastcancer.org](#) posed her main concerns: The potential of Enlist Duo causing Non-Hodgkin’s Lymphoma, Thyroid and Reproductive problems, and Parkinson’s disease. She ominously stated that “corn and soy are genetically engineered to survive these chemicals, but our children are not.”

Dr. Weiss, you either don’t understand that plants and animals are not the same, or you’re cunningly

disingenuous. Here's the deal. The mechanisms by which both glyphosate and 2, 4-D operate affect plants biological pathways, NOT human pathways.

Just a brief: Essentially, proteins are the basic functional components of living things. Proteins serve all purposes from structure, immunity, metabolic, nutritive, enzymatic functions, and more. They are macromolecules comprised of amino acid chains (polypeptides.) The sequence of amino acids in any protein determines its 3D structure, and therefore its function. Importantly, the 3D structure determined by the amino acid sequence results in a protein, comprised of multiple structural and/or functional units called *protein domains*. Effectively, these various functional structures cause proteins to do what they do in any given organism.

Yet the precise manner by which this happens is quite different in different organisms. Take glyphosate. It works by affecting the [shikimate metabolic pathway](#), which is not found in animals. Essentially, it interferes with the production of specific amino acids in the weeds, which are crucial in protein synthesis. Without these amino acids being produced, the weeds cannot produce vital proteins, and they die. Humans, on the other hand, do not synthesize these same amino acids. We consume them in our diets, and our cells use the ready-made amino acids to build our proteins. (There are other amino acids that the human body *does* have to synthesize, but glyphosate doesn't affect those pathways.)

Here's how 2, 4-D works: It causes uninhibited cell-division in broad leaf weeds, making the leaves grow uncontrollably and literally curl over and die (very abridged yet factual explanation.) 2, 4-D is a synthetic version of a plant hormone, not a human hormone.

As I mentioned, glyphosate and 2, 4-D are the two active ingredients in Enlist Duo. While Enlist Duo itself is new to the market, both of these components have been used for decades. Although 2, 4-D is less widely-known than glyphosate, it is used in applications as common as commercial lawn care and non-GMO farming. Agriculture blogger and attorney Farmer's Daughter USA [writes](#),

2, 4-D isn't nearly as scary as the opposition has made it seem, nor is it new. It has been used as a commercial weed applicator since the 1940's. In fact, it is the most widely used weed killer in the world. It's also very effective at controlling weeds. The herbicide actually has nothing to do with GMOs.

When asked by the show for a statement, Dow AgriScience had the following to say:

“The Enlist Weed Control System was created to address the needs of the modern agricultural industry as farmers today struggle to control weeds that impact the food supply, while respecting the safety of both people and the environment.

EPA's statement included:

Based on the best science and state of the art data, the agency has determined that, when used according to labeled directions, there will be no harm to the American public as a result of the use of Enlist.

To most reasonable individuals with high-level scientific literacy, these statements seem acceptable. Yet Dr. Mehmet Oz continued with the sensationalism.

“This subjects our entire nation to one massive experiment,” Oz blathered. “I’m very concerned that we’re at the beginning of a catastrophe that we don’t have to subject ourselves to.”

I was in shock and disbelief as Oz continued. After all, these are two pesticides that have been around for *decades*.

Dr. Oz then pounded the last nail into the coffin: “America, we are running out of time. The only thing standing between this pesticide and your kids is the President of the United States.” He continued by urging his viewers to sign a petition requesting that the EPA not grant approval to Enlist Duo.

Amanda, who writes The Farmer’s Daughter blog, [sums it up](#) nicely:

In reality, these groups are making the problem worse by prohibiting farmers from having a full arsenal of tools that can combat the weeds and slow the rate of resistant strains from developing.

The game these organizations play is, quite frankly, very dangerous. While they certainly benefit financially from attacking conventional agriculture and perpetrating fear among consumers, farmers following their production methods are unable to

produce enough food to feed our growing population. Conventional farming techniques, including biotechnology, are going to be crucial if we want to meet the world's (or country, or state, or county, or city's) food demands. Taking away agriculture's tools and promoting these inaccuracies is deceptive and irresponsible

When it comes to this episode, I suggest listening to the one voice of reason, Dr. Ken Ramos MD PhD, a veteran expert in the fields of toxicology, biochemistry, and molecular biology:

“The weight of the evidence in studies that have been conducted up to date on the toxicity of pesticides argue that they are overwhelmingly safe...It's important to also remember we're talking not about a new pesticide but a new formulation of pesticide. So you're not really changing the paradigm other than probably taking advantage of a combination treatment that could be quite effective.

I cannot emphasize this more: Dr. Oz is a quack. Furthermore, he likely has financial incentives to prevent Enlist Duo from reaching market. After all, he touts the “expert” [opinions of Dr. Joseph Mercola](#). In addition, he has built his fan base of moms and women who lap up his fear mongering like all-natural organic green tea. Inciting unfounded doubt, fear, and anger is his M.O., and viewers tune in for their daily dose of ways to protect their families.

I'm not here to say Enlist Duo is completely and 100% benign. As always, a reasonable risks vs. benefits evaluation must be made. Here, the risks of Enlist Duo when used appropriately are minute, while the benefits to agriculture are immense. I am here to urge you not to take the likes of Dr. Oz seriously, to discourage your circle from signing this petition, and to always take quackery with an entire shaker of salt.

Read the original post “Dr. Oz makes much ado about innocuous GMO pesticide” at This Week In Pseudoscience

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