

GMO Soy Accumulates Carcinogenic Formaldehyde: Game-Changing Study

By [GMI Reporter](#)

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A groundbreaking new study reveals that GMO soy accumulates the carcinogenic chemical formaldehyde, calling into question its safety and the notion that GMOs are substantially equivalent to their conventional counterparts.

[WASHINGTON, July 14, 2015 /PRNewswire/](#)

Systems Biology Group, International Center for Integrative Systems: GMO Soy Accumulates Formaldehyde & Disrupts Plant Metabolism, Suggests Peer-Reviewed Study, Calling For 21st Century Safety Standards

A new study published today in the peer-reviewed journal AGRICULTURAL SCIENCES reveals genetic engineering of soy disrupts the plant's natural ability to control stress, and invalidates the FDA's current regulatory framework of "substantial equivalence" used for approval of genetically engineered food (GMOs).



The study, led by Dr. V.A. Shiva Ayyadurai, Ph.D., an MIT-trained systems biologist, utilizes his latest invention, CytoSolve, a 21st century systems biology method to integrate 6,497 *in vitro* and *in vivo* laboratory experiments, from 184 scientific institutions, across 23 countries, to discover the accumulation of formaldehyde, a known carcinogen, and a dramatic depletion of glutathione, an anti-oxidant necessary for cellular detoxification, in GMO soy, indicating that formaldehyde and glutathione are likely critical criteria for distinguishing the GMO from its non-GMO counterpart.

Dr. Ayyadurai stated, "The results demand immediate testing along with rigorous scientific standards to assure such testing is objective and replicable. It's unbelievable such standards for testing do not already exist. The safety of our food supply demands that science deliver such modern scientific standards for approval of GMOs."



"The discovery reported by Dr. Ayyadurai reveals a new molecular paradigm associated with genetic engineering that will require research to discover why, and how much formaldehyde and glutathione concentration, and what other cellular chemicals relevant to human and animal health, are altered. We need the kinds of standards Dr. Ayyadurai demands to conduct such research," stated Dr. Ray Seidler, a former EPA Senior Scientist. "Formaldehyde is a known class1 carcinogen. Its elevated presence in soybeans caused by a common genetic engineering event is alarming and deserves immediate attention and

action from the FDA and the Obama administration. Soy is widely grown and consumed in the U.S., including by infants fed baby food products, with 94% of soy grown here being genetically engineered,” declared Seidler.

The study concludes the U.S. government’s current standards for safety assessment of GMOs, based on the principle of “substantial equivalence,” is outdated and unscientific for genetically engineered food since it was originally developed for assessing the safety of medical devices in the 1970s. The current criteria for assessing “equivalence” considers only basic nutritional and superficial characteristics such as taste, sight, smell and touch, for declaring GMOs safe for human consumption, allowing them to be fast-tracked to market without independent scientific testing. If formaldehyde and glutathione were criteria, then the GMO would likely not be deemed “equivalent” to its non-GMO counterpart. This finding calls into question the FDA’s food safety standards for the entire country.

The publication of the paper coincides with release of a bulletin by the Obama Administration on July 2, 2015, calling for “Improving Transparency and Ensuring Continued Safety in Biotechnology.”

Ayyadurai shares, “This is not a pro- or anti-GMO question. But, are we following the scientific method to ensure the safety of our food supply? Right now, the answer is ‘no’. We need to, and we can, if we engage in open, transparent, and collaborative scientific discourse, based on a systems biology approach.”

The full study can be read [here](#).

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