Dear Representatives,

This letter is regarding Glyphosate, a toxic artificial amino acid, which is totally inter-twinned with GMO food production. GMO's are sold and grown in the presence of this toxic herbicide, grown in all states, sold without being labeled as biohazard, as it should be, since every trial field producing the final GMO's must be always tracked and labeled by the producer himself, for example: 'AgriGoldA6479', 'MON89788', etc.

These initial labels are on the sale packages, each with unique price, unique treat (all are herbicide or pesticide resistant, with ~90% GLYPHOSATE resistant).

Organic farming is heavily restricted in terms of its rules, it is not subsidized, like GMO's are, their requirements for purity are high, while dust and grains from GMO crops can and do contaminate non-GMO, ORGANIC crops. Equally pollens can drift, winds and rain naturally cross the borders between fields without asking, the same with insect pollination, storage and transport accidents, all these contribute to ever growing GMO contamination in our food supply:

http://www.extension.umn.edu/garden/master-gardener/volunteers/teaching-tools/docs/minimizing_gmo_contamination.pdf

http://www.independentsciencenews.org/news/how-extreme-levels-of-roundup-in-food-became-the-industry-norm/

GMO's are foreign to us, since the engineering of the bread starts in test-tubes, in laboratory conditions, which have no comparison with anything what nature was doing for millions of years (life of eukaryotes, humans, insects or entire plants didn't evolve, wouldn't be possible at 94 deg C, which is the basic temperature of the PCR technique!!!).

Seeds with inserted treats produced through PCR technique contain mixtures of genes from a plant, a pathogenic bacteria, viruses and entirely unknown pieces of DNA.

Every patented seed allows for up to 30% variation in amino-acid sequence of the inserted pieces (patents for soy WO 9200377, corn EP 0218571 A2, canola US 20040018518 A1 and all related to these crops).

Every single genome of the 'outcome' has thus DNA pieces of 'SOME' functional importance, which is not even known. NOR IT IS TESTED FOR HUMAN SAFETY, according to FDA regulations.

Our immune system in its immunogenic reaction usually targets patches of 10-20 amino acids, which are the basics of antibody production, please read at:

http://hymanlab.mpi-cbg.de/hyman_lab/wp-content/uploads/2012/07/Antigendesign_administration.pdf

There are enough debates on allergenicity of GM foods, for example:

http://www.nature.com/nbt/journal/v26/n10/full/nbt1008-1070.html

or in some of publications attached at the end of this letter.

Dear all, the genetic difference of the entire genome between chimp and a human is 1%, between human and human is ~99.9% and between pair of absolute twins, in the moment of their birth it is 0%, yet as soon as the environment comes into play, as Scientific American states:

"For example, one twin in Bruder's study was missing some genes on particular

chromosomes that indicated a risk of leukemia, which he indeed suffered.

The other twin did not."

GOING EVEN FURTHER, A SIGLE amino acid mutation in the Newcastle disease virus matrix protein

(~1/1 100 000 000 base pairs) abrogates its nuclear localization and attenuates viral replication and pathogenicity.

[J Gen Virol. 2014 May;95(Pt 5):1067-73, http://www.ncbi.nlm.nih.gov/pubmed/24603525]

Another example, in ~1Giga Base pairs large virus, 2 residues change make a HUGE difference, read in:

Virology. 1993 Jan;192(1):112-20.

Two novel single amino acid syncytial mutations in the carboxy terminus of glycoprotein B of herpes simplex virus type 1 confer a unique pathogenic phenotype. Engel JP1, Boyer EP, Goodman JL.

which makes ~2/1 000 000 000 gene ratio, making a biological object, the virus, AFTER the single amino acid change, pathogenic.

As a rough example, the GM SOY has a total amount of genes reported at:

http://www.phytozome.net/soybean.php

0.975x20 Mb ~ 20Gb = 20 000 000 000

Assuming size of the 'newly engineered' ~7000 base pairs piece (having pathogenic A. tumefacies piece decoding for EPSPS enzyme, VIRAL promoter, cry1A toxin gene, and nopaline synthase terminator, equally from tumour carrying soil bacteria; please NOTE, ALL THESE GENES produce the mentioned proteins, which LAND IN OUR STOMACHS if we eat that raw GMO!!!), as an example in:

http://gmo-crl.jrc.ec.europa.eu/capacitybuilding/manuals/Manual%20EN/Session07.pdf

and an average RANDOM insertion of that plasmid INTO the SOY PLANT GENOME, we get a probability of 0.2*(7 000/20 000 000 000) = 3.5/ 20 000 000

(the 0.2 scales for the MINIMUMM of DNA randomness during insertion)

i.e. roughly 100 times higher than the mutation probability which represents a pathogenic turn around for a virus!!!

Problems with the RANDOM INSERTION and the claimed well defined INSERTIONS the biotech industry is performing, are reported in:

http://www.independentsciencenews.org/health/regulators-discover-a-hidden-viral-gene-in-commercial-gmo-crops/

Latham JR, and AK Wilson (2008) Trans-complementation and Synergism in Plants:

Implications for Viral Transgenes? Molecular Plant Pathology 9: 85-103.

With one word, the above examples show us, even viruses ARE NOT RANDOM soups of genes, which can be digested without hesitation. The digestion in case of GMO's foreign proteins, DOES NOT EVEN INCUDE HERBICIDES AND PESTICIDES, for which we HAVE NO ENZYMES AT ALL TO DIGEST!!!

It does not even include the fact, that Monsanto patented glyphosate as a broad spectrum antibiotic, http://www.google.com/patents/US7771736, and that one of its degradation products is FORMALDEHYDE (http://www.cdpr.ca.gov/docs/emon/pubs/fatememo/glyphos.pdf), one of the worst carcinogens available, which is used for its production.

It does not even include the fact, that GLYPHOSATE, N-phosphonomethylglycine, chemically mimicks the HUMAN INHIBITING NEUROTRANSMITTER, glycine. It does not include the fact, that glycine was known since 1932 to participate in fast proliferating cancer growths, a fact only recently 'rediscovered' in multiple publications, among others in SCIENCE article: "Metabolite Profiling Identifies a Key Role for Glycine in Rapid Cancer Cell Proliferation", *Science* 25 May 2012: Vol. 336, Issue 6084, pp. 1040-1044. (http://science.sciencemag.org/content/336/6084/1040)

Madam/Sir, taking 'just' the first openly admitted glyphosate feature, namely its antibiotic selectivity, is already a reason for a broken balance inside of our gut bacteria while eating GMO's soaked with it, not speaking about ALL SOILS soaked with this carcinogen, metal chelator, hormone disruptor, inhibitor of every single EPSPS enzyme within every normal plant. It is THE NORMAL PLANTS AND OUR GUT BACTERIA which are producing for us the ESSENTIAL AROMATIC AMINO ACIDS, without which no human, insect, any animal, can live without!!!! The deliberate TARGETTING OF this enzyme by ALL GMO producing biotech facilities, related to glyphosate spread, is a criminal action.

Dear Sir, so far, GMO's did NOT:

1) show to require less toxic herbicides and pesticies:

http://www.enveurope.com/content/24/1/24

Impacts of genetically engineered crops on pesticide use in the U.S. -- the first sixteen years

Charles M Benbrook

2) saved water, on the contrary, the contamination is reaching a tipping point:

Glyphosate persistence in seawater. Philip Mercurioa, Florita Floresb, Jochen F. Muellera, Steve Carterc, Andrew P. Negrib

Marine Pollution Bulletin, Volume 85, Issue 2, 30 August 2014, Pages 385–390

http://toxics.usgs.gov/highlights/glyphosate02.html

http://www.foeeurope.org/sites/default/files/press_releases/foee_5_environmental_impacts_glyphosate.pdf

3) contributed less to global warming, on the contrary:

Herbicides Chemistry: Degradation and Mode of Action. By Kearney

Pest Manag Sci. 2010 May;66(5):536-42. doi: 10.1002/ps.1904.

Glyphosate uncouples gas exchange and chlorophyll fluorescence.

Olesen CF1, Cedergreen N.

4) saved soil organisms necessary for proper growth, like above:

http://www.i-sis.org.uk/Widespread_Glyphosate_Contamination_in_US.php

Njiti, V.N. et al. (2003): Roundup Ready soybean: Glyphosate effects on Fusarium solani root colonization and sudden death syndrome. Agron. J. 95, 1140–1145

5) increased or even preserved biodiversity (principle of GMO design in 85% is to kill everything else but the GMO):

Fernandez, M.R. et al. 2007(a,b), 2005 all in Crop Science 47 and 45.

Morjan,W.E., Pedigo, L.P. & Lewis, L.C. (2002):Environ. Entomol. 31, 1206–1212.

Sanyal, D.& Shrestha, A. (2008): Direct effect of herbicides on plant pathogens and disease development in various cropping systems. Weed Science 56, 155–160.

Johal, G.S. & Huber, D.M. (2009): Glyphosate effects on diseases of plants. Europ. J. Agronomy 31, 144–152.

6) restricted weeds amount, since the new approved GMO generation is going to get resistance to 3x more chemicals, among others, 2,4-D, the chemical weapon used against Vietnamese people!!

http://www.weedscience.org/summary/home.aspx

7) they are NOT content equivalent to their non-GMO counterpart species

http://permaculturenews.org/2013/04/22/stunning-difference-of-gm-from-non-gm-corn/

on the contrary, they are the reason of highest concern due to derailing of the protein expression machinery in GMO plants, ending up with highly toxic substances:

Sci Rep. 2016 Dec 19;6:37855. doi: 10.1038/srep37855 at https://www.ncbi.nlm.nih.gov/pubmed/27991589:

An integrated multi-omics analysis of the NK603 Roundup-tolerant GM maize reveals metabolism disturbances caused by the transformation process. By Mesnage R et al.

8) experience shows GMO's SAFETY is very questionable, in particular since THE SAFETY IS NOT even assessed, in contrary to all drugs trials!!

With all the deliberate misinformation about our FOOD(???), when are you going to take REAL INDUSTRY INDEPENDENT science seriously and limit both the FOREIGN OBJECTS INTRODUCED into HUMAN FOOD SUPPLY, including their universal companion, glyphosate (**Glyphosate: A Unique Global Herbicide (ACS Monographs), by John E. Franz et al.**) ???

So far, basically there is NO warning about hazards, about safety tests or about what it actually is, what we are eating!

If you care about the health of all the people you represent, about your own future, please read about a FUTURE ALTERNATIVE:

Higher antioxidant and lower cadmium concentrations and lower incidence of pesticide residues in organically grown crops: a systematic literature review and meta-analyses

by Marcin Baranski et al. in Br J Nutr. 2014 Sep 14;112(5):794-811.

AND THE CURRENT HEART-BREAKING CONSEQUENCES:

Toxicology. 2014 Jun 5;320:34-45. doi: 10.1016/j.tox.2014.03.001. Epub 2014 Mar 15.

Mechanisms underlying the neurotoxicity induced by glyphosate-based herbicide in

immature rat hippocampus: involvement of glutamate excitotoxicity.

Cattani D1, de Liz Oliveira Cavalli VL1, Heinz Rieg CE1, Domingues JT1, Dal-Cim T1,

Tasca CI1, Mena Barreto Silva FR1, Zamoner A2.

Anthony Samsel and Stephanie Seneff,

" Glyphosate, pathways to modern diseases II: Celiac sprue and gluten intolerance."

Interdiscip Toxicol. 2013; 6(4):

Anthony Samsel and Stephanie Seneff,

"Glyphosate's Suppression of Cytochrome P450 Enzymes and Amino Acid Biosynthesis

by the Gut Microbiome: Pathways to Modern Diseases"

Entropy 2013, 15(4), 1416-1463

Anthony Samsel and Stephanie Seneff,

"Glyphosate, pathways to modern diseases III: Manganese, neurological diseases, and associated pathologies."

Surg Neurol Int. 2015 Mar 24;6:45. doi: 10.4103/2152-7806.

A. Samsel and S Seneff.

"Glyphosate pathways to modern diseases V: Amino acid analogue of glycine in diverse proteins,"

Journal of Biological Physics and Chemistry 2016;16: 9-46.

A. Samsel and S. Seneff.

"Glyphosate pathways to modern diseases VI: Prions, amyloidoses and autoimmune neurological diseases." *Journal of Biological Physics and Chemistry* 2017; 17: 8-32.

Stephanie Seneff, Nancy Swanson and Chen Li.

"Aluminum and Glyphosate Can Synergistically Induce Pineal Gland Pathology:

Connection to Gut Dysbiosis and Neurological Disease."

Agricultural Sciences 2015, 6, 42-70.

K.L. Bassil, MSc, C. Vakil, MD CCFP FCFP, M. Sanborn, MD CCFP FCFP, D.C. Cole,

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Cancer health effects of pesticides Can Fam Physician. October; 53(10): 1704–1711.

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Glyphosate induces human breast cancer cells growth via estrogen receptors.

Food Chem Toxicol. Sep;59:129-36.
http://www.ncbi.nlm.nih.gov/pubmed/23756170

De Roos AJ, Blair A, Rusiecki JA, Hoppin JA, Svec M, Dosemeci M, Sandler DP, Alavanja MC. (2005)
Cancer incidence among glyphosate-exposed pesticide applicators in the Agricultural Health Study. Environ Health Perspect. Jan;113(1):49-54.
http://www.ncbi.nlm.nih.gov/pubmed/15626647

Eriksson M, Hardell L, Carlberg M, Akerman M. (2008)
Pesticide exposure as risk factor for non-Hodgkin lymphoma including histopathological subgroup analysis. Int J Cancer. Oct 1;123(7):1657-63
http://www.ncbi.nlm.nih.gov/pubmed/18623080

Hardell, L., Eriksson ,M.A. (1999)
Case-control study of non-Hodgkin lymphoma and exposure to pesticides. Cancer 85,135360. http://www.ncbi.nlm.nih.gov/pubmed/10189142

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Cardiotoxic Electrophysiological Effects of the Herbicide Roundup® in Rat and Rabbit Ventricular Myocardium In Vitro.
Gress S1, Lemoine S, Puddu PE, Séralini GE, Rouet R.

Int J Environ Res Public Health. 2014 Apr 23;11(4):4449-527.
doi: 10.3390/ijerph110404449.
Non-Hodgkin lymphoma and occupational exposure to agricultural pesticide Chemical groups and active ingredients: a systematic review and meta-analysis.
Schinasi L1, Leon ME2.

Med Pr. 2013;64(5):717-29.
Glyphosate and its formulations--toxicity, occupational and environmental exposure.
Kwiatkowska M1, Pawel J2, Bukowska B2.

Toxicol Sci. 2013 Jun;133(2):289-97. doi: 10.1093/toxsci/kft076. Epub 2013 Mar 27.
Specific pesticide-dependent increases in a-synuclein levels in human neuroblastoma (SH-SY5Y) and melanoma (SK-MEL-2) cell lines.
Chorfa A1, Bétemps D, Morignat E, Lazizzera C, Hogeveen K, Andrieu T, Baron T.

Long term toxicity of a Roundup herbicide and a Roundup-tolerant genetically modified maize.
Séralini GE, Clair E, Mesnage R, Gress S, Defarge N, Malatesta M, Hennequin D, de Vendômois JS.
Food Chem Toxicol. 2012 Nov;50(11):4221-31.
doi: 10.1016/j.fct.2012.08.005. Epub 2012 Sep 19.
REPUBLSIHED!!!

J Struct Biol. 2012 Apr;178(1):1-7. doi: 10.1016/j.jsb.2012.02.007. Epub 2012 Feb 17.
Glyphosate-induced stiffening of HaCaT keratinocytes, a Peak Force Tapping study on living cells.
Heu C1, Berquand A, Elie-Caille C, Nicod L.

Arch Toxicol. 2012 May;86(5):805-13. doi: 10.1007/s00204-012-0804-8. Epub 2012 Feb 14.
Cytotoxic and DNA-damaging properties of glyphosate and Roundup in human-derived buccal epithelial cells.
Koller VJ1, Fürhacker M, Nersesyan A, Mišík M, Eisenbauer M, Knasmueller S.

J Proteomics. 2010 Mar 10;73(5):951-64. doi: 10.1016/j.jprot.2009.12.008.
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Studies on glyphosate-induced carcinogenicity in mouse skin: a proteomic approach.

George J1, Prasad S, Mahmood Z, Shukla Y.

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Genotoxicity of AMPA, the environmental metabolite of glyphosate, assessed by the

Comet assay and cytogenetic tests.

Mañas F1, Peralta L, Raviolo J, García Ovando H, Weyers A, Ugnia L, Gonzalez Cid M,

Larripa I, Gorla N.

Toxicol In Vitro. 2008 Dec;22(8):1853-60. doi: 10.1016/j.tiv.2008.09.006. Epub 2008 Sep 18.

Hepatoma tissue culture (HTC) cells as a model for investigating the effects of low

concentrations of herbicide on cell structure and function.

Malatesta M1, Perdoni F, Santin G, Battistelli S, Muller S, Biggiogera M.

Toxicology. 2014 Jun 5;320:34-45. doi: 10.1016/j.tox.2014.03.001. Epub 2014 Mar 15.

Mechanisms underlying the neurotoxicity induced by glyphosate-based herbicide in

immature rat hippocampus: involvement of glutamate excitotoxicity.

Cattani D1, de Liz Oliveira Cavalli VL1, Heinz Rieg CE1, Domingues JT1, Dal-Cim T1,

Tasca CI1, Mena Barreto Silva FR1, Zamoner A2.

While supporting glyphosate spread, one inevitably implicates 'support' for biotech companies, which is connected with financial profit while selling toxic seeds, toxic herbicides and pesticides to farmers, who know next to nothing about consequences of that, what they are doing to themselves, to others, to the environment, to the future of every child.

As a scientist, I ask you to BAN GLYPHOSATE NOW, and to ban ALL GMO's entirely, since so far, cancer and degenerative diseases are taking over American population every single day.

Thank you,

Christine Trame, PhD

Pacifica, CA

For your information:
As of March 2015, according to the Public interest Attorney, Steven Druker, GMO's have an ILLEGAL status due to scientific and political FRAUD:
'Altered Genes, Twisted Truth: How the Venture to Genetically Engineer Our Food Has Subverted Science, Corrupted Government, and Systematically Deceived the Public '