



THE FRESH LIFE
INTERNAL MAKEOVER
journey



MASTER LIST OF FACTS
& STATISTICS



MODULE 2



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MASTER LIST OF FACTS & STATISTICS:

A note from Me:

These are all my own references that I have researched myself, and resources that I personally - there is not one reference or resource here that I haven't personally investigated myself and chosen to use, of my own accord.

The science and research done is always changing and growing. The facts and statistics presented here, were based on the best information I had available while doing my research. I will endeavour to continually update this list with further resources as they become available.

Although there may be fluctuations in numbers from year to year and from researcher to researcher, the fact and statistics remain staggering, and are used here to share a large scale perspective on what is really happening out there in the world. I share these facts and statistics to create shock factor, which I hope in turn will inspire others to act. With knowledge comes power, and nothing is more powerful, or indeed empowering, than knowing the truth.





GMO and synthetic agricultural chemicals health risks - studies, resources and websites

World's GMO crop fields could cover the US 1.5 times over
Mother Jones - <http://www.motherjones.com/blue-marble/2013/02/gmo-farming-crops-more-popular-than-ever-world-charts>

Environmental toxins, toxic chemicals and other toxin exposures.

TOXIC CHEMICAL PRODUCTION, RELEASES AND EXPOSURES

The report, which also supports the work and actions of the three chemical and hazardous waste conventions— Basel, Rotterdam and Stockholm—and the Strategic Approach to International Chemicals Management, demonstrates the dramatic growth in the industry, which has seen global output climb from USD\$171 billion in 1970 to over USD\$4.1 trillion today.

The shift in production from developed to developing countries is underscored by China, which today is the largest consumer of textile chemicals with 42% of global consumption, and South Africa, where spending on pesticides has grown by close to 60 per cent since the late 1990s.

The Global Chemicals Outlook states that of the 5.7 million metric tonnes of pollutants released in North America (United States, Canada and Mexico), close to two million were chemicals that are persistent, able to accumulate in humans and animals and are toxic. The report also deemed toxic a further million tonnes of substances that are linked with or have suspected links with cancer.

UNEP, United Nations Environmental Programme. 2012 Report - Global Chemicals Outlook - http://www.unep.org/pdf/GCO_Synthesis%20Report_CBDTIE_UNEP_September5_2012.pdf





Global Chemical Industry generated about USD\$4 trillion of sales in 2010, including Pharmaceuticals.

The global chemical sector has grown 24% in the last 10 years (2000-2010 CAGR)

Asia accounted for largest proportion of Global Chemical Turnover with 44%. China alone register 22% of the Global Market. Europe is the second largest market with 24% share in global shipment, Germany has the largest share with 6% of global market.

40.7% of Global Chemicals Output is exported. Western Europe countries export 88% of its output value, highlighting Germany which exports 96% of output, France 70%, UK 82%. (Source: American Chemistry Council)

IFC, International Finance Corporation. IHS Chemicals Financial Forum 2012 - Managing Risks & Delivering Growth in the Chemicals Industry - <http://www.slideshare.net/achandramani/anil-chandramani-ihs-chemical-f-inancial-forum-ny2012>

Running statistics: **The World Counts. Your Health** - http://www.theworldcounts.com/themes/your_health

Running statistics: **Worldometers. Toxic Chemicals released by Industries this year** - <http://www.worldometers.info/view/toxchem/>

There are 97 million organic and inorganic substances registered with the CAS Registry of Chemical Substances.

CAS Chemical Abstract Service Registry, a division of the American Chemical Society - <http://www.cas.org/content/chemical-substances/> / <http://www.cas.org/content/at-a-glance>

Only 82,000 chemicals (non-high production volumes) **are listed on the TSCA**, Toxic Substance Control Act Inventory - these DO NOT include chemicals that are exempt due to being 'low volume, low release, low





exposure, and test exempt' or certain polymers and R&D materials that are also exempt... and **DOES NOT** include chemicals such as those used in cosmetics, pharmaceuticals, food, food additives, pesticides, tobacco and nuclear materials!!

How can EPA more efficiently identify potential risks and facilitate risk reduction decisions for non-HPV existing chemicals? 2005 - <http://epa.gov/oppt/npptac/pubs/finaldraftnonhpvpaper051006.pdf>

2013 - 4,137,328,321 pounds of chemicals were released by (USA) Industry
EPA Total On and Off-site disposal or other releases of chemicals (in pounds) in the USA - http://iaspub.epa.gov/triexplorer/tri_release.chemical. United States Environmental Protection Agency. (2015). TRI Explorer (2013 Dataset (released March 2015)) [Internet database]. Retrieved from <http://www.epa.gov/triexplorer>, (April 29, 2015)

Between 1988 - 2013, the US alone has released over 110 billion pounds of chemicals into the environment in some way or another.

I calculated 110,637,912,095 (billion) pounds from all the available reports on the EPA's website. EPA Total On and Off-site disposal or other releases of chemicals (in pounds) in the USA for the years 1981, 1988, and 1990 through 2012 - http://iaspub.epa.gov/triexplorer/tri_release.chemical. United States Environmental Protection Agency. (2015). TRI Explorer (2013 Dataset (released March 2015)) [Internet database]. Retrieved from <http://www.epa.gov/triexplorer>, (April 29, 2015).

An estimated 70 000 to 100 000 chemical substances are produced in high volumes, over 1 million tonnes a year. OECD countries are the biggest producers of chemicals but production is increasing more than twice as fast in India, China, Brazil, South Africa and Indonesia. Presently, most chemicals are produced by so called 'developed countries' but production is increasing more than twice as fast in India, China, Brazil, South Africa and Indonesia. Their economic share of total world chemical production is projected to rise to around 30 % by 2020 and almost 40 % by 2030.





European Environment Agency. *Pollution - increasing use of chemicals* - <http://www.eea.europa.eu/signals/signals-2011/earth-2050-global-megatrends/pollution-2014-increasing-use-of-chemicals> (Ref graph - *Pollution - increasing use of chemicals*)

We don't necessarily know about the chemicals we're exposed to because there's no requirement on manufacturers to list all the ingredients in the products, there's no requirement to show that these chemicals are actually safe before people are exposed to them - *Professor Peter Sly*. ABC News, Article featuring Laureate Professor John Aitken, Professor Peter Sly, Dr Linda Birnbaum, Dr Andrea Gore, Professor Ian Shaw, Dr Maryanne Demasi, Dr Bruce Lanphear, Sarah Wilson *Our Chemical Lives* - <http://www.abc.net.au/catalyst/stories/4207313.htm>

FAR REACHING AND LONG LASTING TOXIC CONTAMINATION

Organochlorinated pesticides (OCPs) are parts of persistent organic pollutants (POPs), which include HCH, DDT, aldrin, dieldrin, endrin, chlordane, heptachlor, toxaphene, HCB, etc. POPs are much different from other pesticides in these aspects: they are environmentally persistent, semi-volatile, highly-bioaccumulative and highly toxic (Yu et al., 2005). According to the “Stockholm Convention on Persistent Organic Pollutants”, nine in twelve POPs are organochlorinated pesticides.

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

A research panel of Indiana University analysed barks from 90 sites from the equator to high latitude cold regions, and detected DDT, aldrin and lindane residuals. High-residual pesticides like DDT have been detected in the Greenland ice sheet and the bodies of Antarctic penguins which were resulted from atmospheric circulation, ocean currents and biological enrichment of pesticides.





International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

PTSs persistent toxic substances study of indigenous people living in the Russian Arctic where a number of adverse health effects were found - *study identified chemical exposures of POPs and PTSs, especially due to their diet including consumption of large amounts of animal protein rich in animal fats - therefore exposure to high concentrations of bioaccumulation of toxic substances, chemicals and compounds.*

WHO, World Health Organisation Slide show: POPs (Persistent Organic Pollutants) - <http://www.who.int/ceh/capacity/POPs.pdf> Slide 22 WHO POPs slide show 2008

Pesticides in the atmosphere are mainly from the emissions of pesticide plants, evaporation of pesticide residuals in soils and water bodies, and volatilization of pesticides sprayed, etc. Generally atmospheric pollution of pesticides is widespread. Organochlorinated pesticides were detected even in the snow on Nanjiabawa Peak in Tibet, with an elevation of 4,250 m (Shan, 1997)

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

PESTICIDE PRODUCTION AND CONSUMPTION

Globally 4.6 million tons of chemical pesticides are annually sprayed into the environment. There are currently about 500 pesticides with mass applications, of which organochlorinated pesticides, some herbicides and the pesticides containing mercury, arsenic and lead are highly poisonous to the environment. Only 1% of the sprayed pesticides are effective. 99% of





pesticides applied are released to non-target soils, water bodies and atmosphere, and finally absorbed by almost every organism

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

Herbicides [e.g glyphosate etc] in pesticide consumption has increased rapidly, from 20% in 1960 to 48% in 2005.

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

As for countries, China, the United States, France, Brazil and Japan are the largest pesticide producers, consumers or traders in the world.

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

In 1999 alone, over 1 billion pounds of pesticides were applied in the United States, and over 5.6 billion pounds were applied worldwide. The US National Library of Medicine. Study - *Health Effects of Chronic Pesticide Exposure: cancer and neurotoxicity* - <http://www.ncbi.nlm.nih.gov/pubmed/15015917>

Atrazine held the highest portion in the maize herbicides. In 2005 its consumption reached 57.39 million pounds, almost twice as much as glyphosate.

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)





[www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

Germany is the largest producer and second largest consumer of pesticides in Europe. In 2006, Germany exported herbicides worth of 830 million US dollars.

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

The consumption of fungicides/bactericides on maize roared in 2007, from 6 million US dollars in 2005 to 130 million US dollars in 2007.

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

2.4 billion kilograms / 5.4 billion pounds of pesticides were used worldwide in 2007 - the US accounted for 20% of the total. *Concentration of pesticides is less seeing as they use 2.2 kg per hectare of arable land, while China uses 10.3 kg per hectare (making their concentrations one of the highest).*

There are more than 2,000 pesticide companies, of which more than 400 companies are manufacturers for original pesticides; more than 300 varieties of original pesticides and 3,000 preparations are being manufactured. China's pesticide production has reached 1.73 million tons (Zhu, 2008). China is now the largest producer and exporter, and the second largest consumer of pesticides in the world (Rajinder et al., 2009).

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)





[www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

Japan is one of the world's largest pesticide consumer and the largest pesticide market in Asia. In Japan, pesticides are mainly applied to rice. Consumption of rice pesticides account for 41% of the total.

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

Pesticide consumption of Africa accounts for about 3% of the world, of which South Africa makes up 2% of pesticide consumption of the world. As the development of Africa's agriculture grows, pesticide production of South Africa is expected to grow rapidly.

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

The Washington Post. *We've covered the world in pesticides. Is that a problem?* - <http://www.washingtonpost.com/blogs/wonkblog/wp/2013/08/18/the-world-uses-billions-of-pounds-of-pesticides-each-year-is-that-a-problem/>

(Reference graphs: *Pesticides applied, kg per hectare of arable land, 2005 - 2009*. - <http://www.washingtonpost.com/blogs/wonkblog/files/2013/08/pesticide-use-farms.png> and *Pesticide Use Throughout The World* - <http://scientificbeekeeping.com/sick-bees-part-18f8-colony-collapse-revisited-beekeeping-economics/>)

Check Out <http://www.beyondpesticides.org/lawn/factsheets/facts&figures.php>





DEATH AND LOSS OF LIFE DUE TO PESTICIDES (DIRECT/POISONINGS)

According to a report of WHO and UNEP, worldwide there are more than 26 million human pesticide poisonings with about 220,000 deaths per year (Richter, 2002). In the United States, there are 67 thousands human pesticide poisonings per year. In China, there are 0.5 million human pesticide poisonings with 0.1 million deaths per year.

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

FERTILIZERS

More than 54 million tons (110 billion pounds) of commercial fertilizers consumed in the United States in 1996 (N, P, K) accounted for 91% (1996 EPA Report) *More than 54 million tons (110 billion pounds) of commercial fertilizers and liming materials of all kinds were consumed in the United States in the year ending June 30, 1996 (AAPFCO, 1997a). Primary nutrients (N, P, K) accounted for 91% of this total; liming materials accounted for about 4%, and organic fertilizers accounted for 1% of the total. Approximately 5% of the total (2.7 million tons) was due to secondary nutrient fertilizers (calcium, magnesium, sulphur) and micronutrients.* EPA. 1996 Report - *Background Report on Fertilizer Use, Contaminants and Regulations* - <http://www.epa.gov/opptintr/pubs/fertilizer.pdf>

185.1 million tons of fertilizer was used worldwide, in 2008 (over 400 billion pounds)

The Fertilizer Institute. *World Fertilizer Use* - <http://www.tfi.org/statistics/statistics-faqs>

Global fertilizer use is likely to rise above 200.5 million tonnes in 2018, 25 percent higher than recorded in 2008.

FAO, Food and Agriculture Organisation of the United Nations. Article -





Fertilizer Use to Surpass 200 million Tonnes in 2018 - <http://www.fao.org/news/story/en/item/277488/icode/>

WATER CONTAMINATION

Every day, 2 million tons of sewage and industrial and agricultural waste are discharged into the world's water (UN WWAP 2003), the equivalent of the weight of the entire human population of 6.8 billion people.

Pacific Institute. 2010 Report - World Water Quality Facts and Statistics - http://www.pacinst.org/wp-content/uploads/sites/21/2013/02/water_quality_facts_and_stats3.pdf

The UN estimates that the amount of wastewater produced annually is about 1,500 km³, six times more water than exists in all the rivers of the world. (UN WWAP 2003).

Pacific Institute. 2010 Report - World Water Quality Facts and Statistics - http://www.pacinst.org/wp-content/uploads/sites/21/2013/02/water_quality_facts_and_stats3.pdf

206 million pounds of toxic chemicals were released into US waterways in 2012

US Environment America Report, 2014, *Wasting Our Waterways* - <http://www.environmentamerica.org/news/ame/206-million-pounds-toxic-chemicals-dumped-america's-waterways>

According to a report from the EPA of the United States, many of rural wells in the nation contain at least one of 127 pesticides.

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)





Generally water bodies of croplands are most often polluted. The pesticide concentration of water bodies can reach the magnitude of dozens of milligrams per litre. The levels of water pesticide pollution can be ranked as: cropland water>field ditch water> runoff>pond water>groundwater> river water> deep groundwater>sea water (Lin et al., 2000).

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

WASTE

The Member States of the European Union (EU) produce more than 2 billion tonnes of waste, including hazardous materials, every year. And this figure is rising steadily. The situation is even more alarming in the countries of Eastern Europe, Caucasus, and Central Asia. The waste generated there accounts for nearly 4 billion tonnes (2009).

United Nations Economic Commission for Europe. How much waste do we produce? - http://www.unece.org/statistics/news/waste_statistics.html

Chemical Body Burden

Anderson Cooper (CNN reporter), had Chemical Body Burden testing done and of the 246 toxic chemicals that were tested, tests came back positive for over 100 of those chemicals - <https://www.youtube.com/watch?v=pBXvJWWIqss> CNN.com Tests reveal high chemical levels in kids' bodies - <http://www.cnn.com/2007/TECH/science/10/22/body.burden/index.html?eref=yahoo> CNN - Toxic America <http://www.cnn.com/SPECIALS/2010/toxic.america/>

Adult Minority Leader Report, found an 37-40 of 75 tested chemicals. Human Toxome Project, Biomonitoring Investigation - <http://www.ewg.org/sites/humantoxome/participants/participant.php?subject=amr03>



The negative link between man-made/environmental toxins and Health, Healthy Weight and Longevity

2nd Congress of the Paris Appeal 2006 said *“It’s human activities which cause disease”*

The 2nd Congress of the Paris Appeal 2006 - Environment and sustainable health: An International Assessment. *164 recommendations and solutions, supported by 68 International Experts (all independent/without outside influence)* http://www.artac.info/fic_bdd/pdf_fr_fichier/ProgrammeComplet091106_13074632850.pdf

90-95% of cancer is caused by diet and environmental exposures.

US National Library of Medicine. Study - *Cancer is a Preventable Disease that requires major Lifestyle Changes* - <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2515569/>

One in every six children has a developmental disability, in most cases affecting the nervous system [pesticide exposure]

Cut back on Pesticides - Health and Environment Alliance Annual Review 2006 - http://www.env-health.org/IMG/pdf/HEAL_Annual_Report_2006.pdf

Pesticides can not only cause death but also induce various diseases. It is estimated that cancer patients resulted from pesticide poisoning account for nearly 10% of the total cancer patients (Gu and Tian, 2005). Chen (2004) found that the incidence of breast cancer was linearly correlated with the frequency of pesticide uses, and organochlorined pesticide, DDT, and its derivative, DDE, is likely responsible for breast cancer.

International Academy of Ecology and Environmental Sciences. Article - *Global pesticide consumption and pollution: with China as a focus* - [http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)





The instances of testicular cancer in Australia has increased by over 50%.

Dr Laureate Professor John Aitken “It’s undeniable that this increase in testicular cancer is occurring. It’s too vast to be entirely genetic, and therefore, likely to be something which is environmental. (most men diagnosed at age 30 but cause can be traced back to womb exposure).

ABC News, Article featuring Laureate Professor John Aitken, Professor Peter Sly, Dr Linda Birnbaum, Dr Andrea Gore, Professor Ian Shaw, Dr Maryanne Demasi, Dr Bruce Lanphear, Sarah Wilson *Our Chemical Lives* - <http://www.abc.net.au/catalyst/stories/4207313.htm>

Toxins such as dioxin are long-lasting in the body because they are fat-soluble—they accumulate and become stored in body fat.

Dr Jeffrey S. Bland, PhD. Chapter 17: *Digestion and Excretion* - https://www.functionalmedicine.org/content_management/files/AdvancedPracticeModule1Feb2010/TFMchapters/Chapter17.pdf

Exposure to different doses of these environmental chemicals in various periods of life from fetal to adult period interacts with some endocrine signaling mechanisms and in turn leads to obesity.

Although all obesogen chemicals are not yet identified, and their detailed mechanisms of action remain to be explored, generally it is assumed that exposure to different doses of these environmental chemicals in various periods of life from fetal to adult period interacts with some endocrine signaling mechanisms and in turn leads to obesity. The US National Library of Medicine. Study - *Role of Environmental Chemicals in Obesity: A Systemic Review of Current Evidence* - <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3687513/>





Gut Health

A disrupted microbiome resulting in gut dysbiosis, bacterial overgrowth and translocation, systemic endotoxemia and immune dysfunction may be more important drivers. Therefore, it is important to re-focus our efforts into developing therapies that modulate the disrupted microbiome or alleviating its downstream consequences.

D. L Shawcross. The US Library of Medicine. HHS Public Access. Study - *Is it time to target gut dysbiosis and immune dysfunction in the therapy of hepatic encephalopathy?* - <http://www.ncbi.nlm.nih.gov/pubmed/25846450>

Environmental Impact of Agriculture, Dead Zones/Agricultural run-off

95% of the world's fresh water pumping is for agriculture.

FOA, the United Nations Food and Agriculture Organisation - <http://www.fao.org/economic/ess/agri-environment/en/>

38.5% of the world's land area is dedicated to agriculture.

FOA, the United Nations Food and Agriculture Organisation - <http://www.fao.org/economic/ess/agri-environment/en/>

It's estimated that 50 million people in the United States obtain their drinking water from groundwater that is potentially contaminated by pesticides and other agricultural chemicals - *The US Department of Agriculture*

Michael C.R. Alavanja Dr.P.H. The US National Library of Medicine. Article - *Pesticide use and Exposure Extensive Worldwide* - <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2946087/>





Food processing, manufacturing, and packaging, including food additive dangers.

There are 175 potentially hazardous substances being legally used in the production of food contact materials in Europe & the USA

<http://www.foodpackagingforum.org/news/hazardous-substances-in-food-contact> Link to actual study - <http://www.tandfonline.com/doi/abs/10.1080/19440049.2014.931600?journalCode=tfac20#.VSdZclwyFSU>

80% of antibiotic sold in the US is for livestock.

Cowspiracy Documentary. Facts Page - <http://www.cowspiracy.com/facts/>
FDA 2009, Report, "Antimicrobials Sold or Distributed for Use in Food-Producing Animals" - <http://www.fda.gov/downloads/ForIndustry/UserFees/AnimalDrugUserFeeActADUFA/UCM231851.pdf>

Feeding the World Statistics

1/3 of edible parts of food, or 1.3 billion tons, is wasted or lost globally per year.

FAO, Food and Agriculture Organisation - *Food Losses and Food Waste Study - Global Food production graph* - <http://www.fao.org/docrep/014/mb060e/mb060e.pdf> <http://www.fao.org/docrep/014/mb060e/mb060e00.htm>

Facts and Statistics

38.5% of the world's land area is dedicated to agriculture!
FOA, the United Nations Food and Agriculture Organisation - <http://www.fao.org/economic/ess/agri-environment/en/>

The US Department of Agriculture has estimated that 50 million people in the United States obtain their drinking water from groundwater that is potentially contaminated by pesticides and other agricultural chemicals - **Michael C.R. Alavanja Dr.P.H. The US National Library of Medicine. Article -**





Pesticide use and Exposure Extensive Worldwide - <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2946087/>

Springer Science. Study - **Ecology of Increasing Diseases/ Population Growth and Environmental Degradation** - http://izt.ciens.ucv.ve/ecologia/Archivos/ECO_POB%202007/ECOPO6_2007/Pimentel%20et%20al%202007_Human%20Ecol_35_653-668.pdf

Live Science. Article - **Pollution Facts and Types of Pollution** - <http://www.livescience.com/22728-pollution-facts.html>

Awesome Fact Sheet - Eco-Cycle. Environmental Facts <http://www.ecocycle.org/files/pdfs/Eco-CycleEnvironmentalFacts.pdf>

WHO - Chemical Fact Sheets - http://www.who.int/water_sanitation_health/dwq/gdwq0506_12.pdf

EDF Environmental Defence Fund. Toxic Ignorance - The continuing absence of basic health testing for top-selling chemicals in the United States. http://www.edf.org/sites/default/files/243_toxicignorance_0.pdf

CAS Chemical Abstract Service Registry - A division of the American Chemical Society - <http://www.cas.org/content/chemical-substances> 97 million <http://www.cas.org/content/at-a-glance>

OECD, Organisation for Economic Co-operation and Development, Stat Extracts

2013 Edition of OECD Environmental Database - <http://www.oecd.org/greengrowth/sustainable-agriculture/agri-environmentalindicators.htm>

Access complete database - http://stats.oecd.org/Index.aspx?DataSetCode=TAD_ENVINDIC_2013





PESTICIDE SALES IN AGRICULTURE (TONNES OF ACTIVE INGREDIENTS)

Include all pesticides e.g. insecticides, fungicides, herbicides.

Australia	1990 - 17,869		2008 - 35,901 (17-37,000)
Canada	1990 - 33,964		2006 - 36,573 (29-44,000)
France	1990 - 97,701	1999 - 120,501!	2008 - 78,578 (78-120,000)
Germany	1990 - 33,146		2008 - 34,664 (25-34,000)
Italy	1990 - 0!	1995 - 78,267	2008 - 80,663 (76-94,000)
Japan	1990 - 92,608		2008 - 58,750 (58-92,000)
Mexico	1990 - 36,000		2006 - 44,765 (27-44,000)
UK	1990 - 31,736		2008 - 17,802 (17-32,000)
USA	1990 - 326,587!!!!		2007 - 310,257 (310-364,000!!)

TRANSGENIC CROPS - HECTARES

Australia	1998 - 100,000	2011 - 700,000
Canada	1998 - 2,800,000	2011 - 10,400,000
Mexico	1996 - (!) 50,000	2011 - 200,000
USA	1998 - 20,500,000!!!	2011 - 69,000,000!!!!!!





Solutions

Organic Farming - Certified Organic Agricultural LAND AREA

Country	population	certified organic farmland increases	
Australia (low pop/high%land)	(23mil)	2002 - 10,000,000	2010 - 12,001,700
Austria (low pop/high increase%land)	(8.5mil)	1994 - 192,300	2010 - 543,605
Canada	(35mil)	2002 - 478,700	2010 - 703,678
Czech Re. (low pop/high increase%land)	(10.5mil)	1994 - 14,982	2010 - 447,821
France (high pop/high increase%land)	(66mil)	1994 - 87,000	2010 - 845,442
Italy (high pop/high increase%land)	(60mil)	1994 - 154,120	2010 - 1,113,742
Spain (high pop/high increase%land)	(47mil)	1998 - 269,465	2009 - 1,602,871
USA (high pop/low increase%land)	(318mil)	1995 - 370,206	2010 - 1,948,950

