



Why people believe the craziest things about food

Ivo Vegter

Journalist, columnist,
researcher and author

South African Society of Dairy Technology, June 2020

Good day, ladies, gentlemen and everyone else.

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My name is Ivo Vegter. I've been a journalist for over 26 years, and in my spare time write research reports for think tanks.

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I was Daily Maverick's longest-running columnist until I left them recently to join the Institute for Race Relations to promote classical liberal principles. Among other things, I now write for its newspaper, the Daily Friend.



The fun part of my job is debunking popular and widely-held myths. People are incredibly attached to their beliefs, often without much by way of scientific fact or logical reasons.

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Many people base their entire identities on their belief systems about the environment, economics, and indeed, food.



That's why when those beliefs get challenged, people can get very offended. You're attacking their sense of identity, their like-minded communities, and even their intelligence.

Why people believe the craziest things about food

Over the years, I've identified several reasons why people believe myths and misinformation about food, and why those beliefs are so hard to shift. Today, I'd like to talk about four of them:

Why people believe the craziest things about food

- ❁ The appeal of authority

The appeal of authority. People tend to believe popular figures in the media, without understanding the underlying science.

Why people believe the craziest things about food

- ❁ The appeal of authority
- ❁ It's trendy to be sensitive

It's trendy to be sensitive to this or that, or have a condition that makes one deserving of special treatment

Why people believe the craziest things about food

- ❁ The appeal of authority
- ❁ It's trendy to be sensitive
- ❁ Anti-capitalism and the myth of an idyllic past

A fashionable aversion to capitalism and a belief in the myth of an idyllic past that was ruined by modernity.

Why people believe the craziest things about food

- ❁ The appeal of authority
- ❁ It's trendy to be sensitive
- ❁ Anti-capitalism and the myth of an idyllic past
- ❁ Mystical and spiritual beliefs

And finally, people have mystical and spiritual beliefs that influence how they view health and diet.

**HUMAN LIVER MICROSOMES ATROPSELECTIVELY
METABOLIZE 2,2',3,4',6-PENTACHLOROBIPHENYL (PCB 91)
TO A 1,2-SHIFT PRODUCT AS THE MAJOR METABOLITE**

Eric Uwimana, Xueshu Li, and Hans-Joachim Lehmler

Environ. Sci. Technol., Just Accepted Manuscript • DOI: 10.1021/acs.est.8b00612 • Publication Date (Web): 16 Apr 2018

Downloaded from <http://pubs.acs.org> on April 20, 2018

Abstract

Polychlorinated biphenyls (PCBs) and their hydroxylated metabolites (OH-PCBs) have been implicated in neurodevelopmental disorders. Several neurotoxic PCBs, such as PCB 91, are chiral because they form stable rotational isomers, or atropisomers, that are non-superimposable mirror images of each other. Because only limited information about the metabolism of these PCBs by human cytochrome P450 (P450) enzymes is available, we investigated the biotransformation of PCB 91 to OH-PCBs by human liver microsomes (HLMs). Racemic PCB 91 was incubated with pooled or individual donor HLMs at 37 °C, and levels and chiral signatures of PCB 91 and its metabolites were determined. Several OH-PCBs were formed in the order 2,2',4,4',6-pentachlorobiphenyl-3-ol (3-100; 1,2 shift product) > 2,2',3,4',6-pentachlorobiphenyl-5-ol (5-91) >> 2,2',3,4',6-pentachlorobiphenyl-4-ol (4-91) >> 4,5-dihydroxy-2,2',3,4',6-pentachlorobiphenyl (4,5-91). Metabolite formation rates displayed inter individual variability. The first eluting atropisomers of PCB 91, 3-100 and 4-91, and the second eluting atropisomer of 5-91 were enriched in most metabolism studies. The unexpected, preferential formation of a 1,2-shift product and the variability of the OH-PCBs profiles in experiments with individual donor HLMs underline the need for further systematic studies of the atropselective metabolism of PCBs in humans.

Most people are not scientists. Most people have never even read a scientific paper. I'm not a scientist either, but I do read lots of scientific papers.

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I can fully understand why people don't read them. Scientists make terrible writers, and most of it goes way over the layman's head.

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While you and I may know what this paper means, we can't expect the average consumer to understand it.

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I'm kidding. I have no clue what's going on here.

Warning signs of bad science

- △ Sensationalised headlines, even in university press releases
- △ Speculative language
- △ Relative risk vs absolute risk
- △ Extrapolating *in vitro* results to *in vivo* results
- △ Extrapolating results in lab animals to humans
- △ Confusing correlation and causation
- △ Unreplicable results
- △ Assuming “peer reviewed” means “verified”
- △ Cherry-picked results
- △ Ignoring caveats
- △ Small sample sizes
- △ Unrepresentative samples
- △ Lack of control group
- △ No double-blind testing
- △ Conflicts of interest

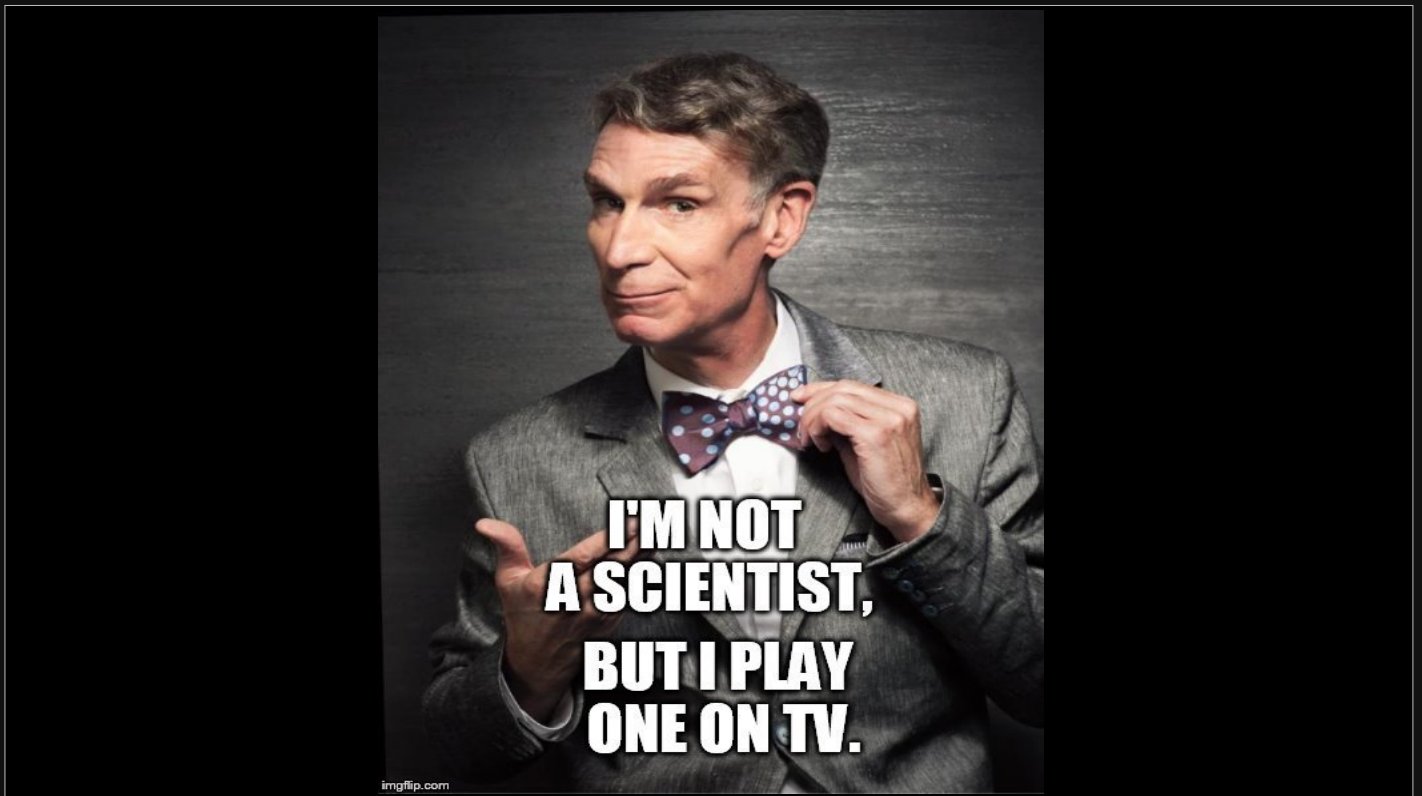
Distinguishing good science from bad science is hard. Without going into detail, here's a checklist of fifteen things to look for when evaluating scientific news or papers.

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Do you do that every time you read an article in a magazine that says whiffledidoo causes cancer?

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I can tell you without much fear of contradiction that very few journalists do this, either. They just parrot what they read in university press releases, or worse, what television celebrities tell them.



Because few people have the skills necessary to interpret what a scientific result means, or to distinguish good science from bad, they rely on authorities to do it for them. Superficially, this seems sensible.

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Unfortunately, popular authorities leave a lot to be desired. Many aren't even real experts.

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Bill Nye the Science Guy is a mechanical engineer, but is widely mistaken for an expert on a wide range of scientific subjects, from evolution to climate change.



When CNN was covering an E.coli outbreak on romaine lettuce, they did not invite a food safety regulator or a food scientist onto TV. They invited the blogger Vani Hari, better known as The Food Babe.

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The Food Babe has over a million followers on Facebook. Yet she has no relevant qualifications or work experience.

WRONG!

CNN Lets 'Food Babe' Spout Pseudoscience on Lettuce Outbreak

The FDA poured cold water on the self-appointed food investigator's advice.



Tanya Basu
Senior Editor, Science

Updated Dec. 03, 2018 8:56AM ET / Published Nov. 30, 2018 9:56PM ET



Photo Illustration by The Daily Beast

The Food Babe told CNN that the E.coli contamination probably happened during processing and could be avoided by buying whole heads of lettuce.

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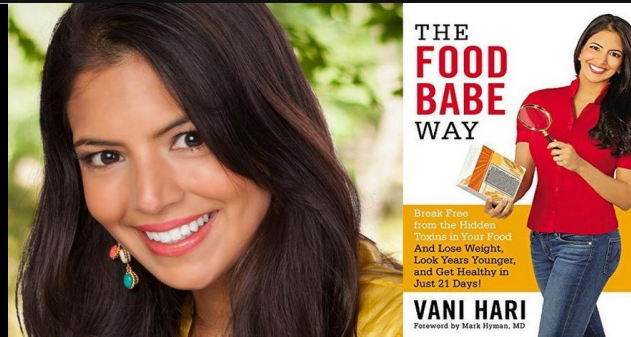
She was guessing. It happened at source, on farms, and whole heads were contaminated.

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She told the global TV viewership that it was because of antibiotics breeding superbugs.

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It wasn't. E.coli is not a superbug. Antibiotics are contra-indicated in the treatment of E.coli infections in humans. Farmers certainly don't treat lettuce with antibiotics.



“Microwaved water produced a similar physical structure to when the words ‘satan’ and ‘hitler’ were repeatedly exposed to the water.”

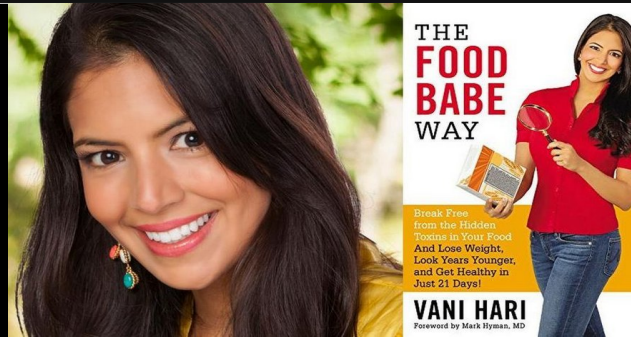
The Food Babe has unburdened herself of real scientific pearls, like “Microwaved water produced a similar physical structure to when the words ‘satan’ and ‘hitler’ were repeatedly exposed to the water.”

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[Talk to water. Drink water.]

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Hmm, yes, that water tastes offended.



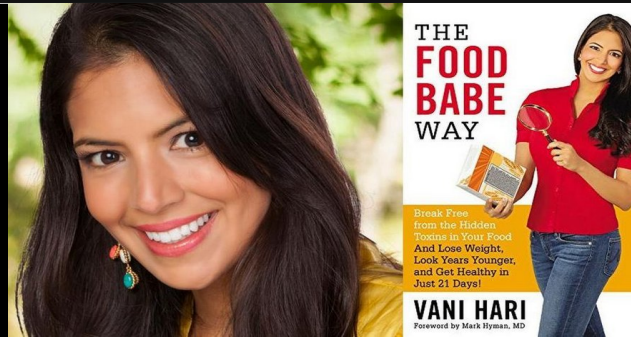
“Microwaved water produced a similar physical structure to when the words ‘satan’ and ‘hitler’ were repeatedly exposed to the water.”

“There is just no acceptable level of any chemical to ingest, ever.”

“There is just no acceptable level of any chemical to ingest, ever.”

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That gives new meaning to the phrase “starvation diet”.



“Microwaved water produced a similar physical structure to when the words ‘satan’ and ‘hitler’ were repeatedly exposed to the water.”

“There is just no acceptable level of any chemical to ingest, ever.”

“If a third grader can’t pronounce it, don’t eat it.”

“If a third grader can't pronounce it, don't eat it.”

	beta-carotene; retinol
	thiamine; thiamin
	riboflavin
	niacin; nicotinic acid; niacinamide
	pantothenic acid
	pyridoxine
	biotin
	folic acid; folate
	cyanocobalamin; methylcobalamin
	ascorbic acid
	ergocalciferol; cholecalciferol
	tocopherol
	phylloquinone; phytonadione; phytomenadione
	menaquinone; menatetrenone

Here's a list of chemicals, most of which a third-grader would not be able to pronounce. Recognise them?

A	beta-carotene; retinol
B1	thiamine; thiamin
B2	riboflavin
B3	niacin; nicotinic acid; niacinamide
B5	pantothenic acid
B6	pyridoxine
B7	biotin
B9	folic acid; folate
B12	cyanocobalamin; methylcobalamin
C	ascorbic acid
D	ergocalciferol; cholecalciferol
E	tocopherol
K1	phylloquinone; phytonadione; phytomenadione
K2	menaquinone; menatetrenone

These are all the vitamins we need, at acceptable levels.

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The Food Babe set ignorance as the standard for food safety.



A CULT OF IGNORANCE

ISAAC ASIMOV/MY TURN

It's hard to quarrel with that ancient justification of the free press: "America's right to know." It seems almost cruel to ask, ingenuously, "America's right to know what, please? Science? Mathematics? Economics? Foreign languages?"

None of those things, of course. In fact, one might well suppose that the popular feeling is that Americans are a lot better off without any of that tripe.

There is a cult of ignorance in the United States, and there always has been. The strain of anti-intellectualism has been a constant thread winding its way through our political and cultural life, nurtured by the false notion that democracy means that "my ignorance is just as good as your knowledge."

Politicians have routinely striven to speak the language of Shakespeare and Milton as ungrammatically as possible in order to avoid offending their audiences by appearing to have gone to school. Thus, Adlai Stevenson, who incautiously allowed intelligence and learning and wit to peep out of his speeches, found the American people flocking to a Presidential candidate who invented a version of the English language that was all his own and that has been the despair of satirists ever since.

George Wallace, in his speeches, had, as one of his prime targets, the "pointy-headed professor," and with what a roar of approval that phrase was always greeted by his pointy-headed audience.

Now we have a new slogan on the part of the obscurantists: "Don't trust the experts!" Ten years ago, it was "Don't trust anyone over 30." But the shouters of that slogan found that the inevitable alchemy of the calendar converted them to the untrustworthiness of the over-30, and, apparently, they determined never to make that mistake again. "Don't trust the experts!" is absolutely safe. Nothing, neither the passing of time nor exposure to information, will convert these shouters to experts in any subject that might conceivably be useful.

We have a new buzzword, too, for anyone who admires competence, knowledge, training and skill, and who wishes to spread it around. People like that are called "elitists." That's the funniest buzzword ever

invented because people who are not members of the intellectual elite don't know what an "elitist" is, or how to pronounce the word. As soon as someone shouts "elitist" it becomes clear that he or she is a closet elitist who is feeling guilty about having gone to school.

All right, then, forget my ingenious question. America's right to know does not include knowledge of elitist subjects. America's right to know involves something we might express vaguely as "what's going on." America has the right to know "what's going on" in the courts, in Congress, in the White House, in industrial councils, in the regulatory agencies, in la-

'America's right to know' is a meaningless slogan when hardly anyone can read.

bor unions—in the seats of the mighty, generally.

Very good, I'm for that, too. But how are you going to let people know all that?

Grant us a free press, and a corps of independent and fearless investigative reporters, comes the cry, and we can be sure that the people will know.

Yes, provided they can read!

As it happens, reading is one of those elitist subjects I have been talking about, and the American public, by and large, in their distrust of experts and in their contempt for pointy-headed professors, can't read and don't read.

To be sure, the average American can sign his name more or less legibly, and can make out the sports headlines—but how many nonelitist Americans can, without undue difficulty, read as many as a thousand consecutive words of small print, some of which may be trisyllabic?

Moreover, the situation is growing worse. Reading scores in the schools decline steadily. The highway signs, which used to represent elementary misreading lessons ("Go Slo," "Xroad") are steadily being replaced by little pictures to make them internationally legible and incidentally to help those who know how to drive a

car but, not being pointy-headed professors, can't read.

Again, in television commercials, there are frequent printed messages: "Well, keep your eyes on them and you'll find out that no advertiser ever believes that anyone but an occasional elitist can read that print. To ensure that more than this mandarin minority gets the message, every word of it is spoken out loud by the announcer."

How is it, if that is so, then how have Americans got the right to know? Grant that there are certain publications that make an honest effort to tell the public what they should know, but ask yourselves how many actually read them.

There are 200 million Americans who have inhabited schoolrooms at some time in their lives and who will admit that they know how to read (provided you promise not to use their names and shame them before their neighbors), but most decent periodicals believe they are doing amazingly well if they have circulations of half a million. It may be that only 1 per cent—or less—of Americans make a stab at exercising their right to know. And if they try to do anything on that basis they are quite likely to be accused of being elitists.

I contend that the slogan "America's right to know" is a meaningless one when we have an ignorant population, and that the function of a free press is virtually zero when hardly anyone can read.

What shall we do about it? We might begin by asking ourselves whether ignorance is so wonderful after all, and whether it makes sense to denounce "elitism."

I believe that every human being with a physically normal brain can learn a great deal and can be surprisingly intellectual. I believe that what we badly need is social approval of learning and social rewards for learning.

We can all be members of the intellectual elite and then, and only then, will a phrase like "America's right to know" and, indeed, any true concept of democracy, have any meaning.

Asimov, a professor of biochemistry at Boston University School of Medicine, is the author of 212 books, most of them on various scientific subjects for the general public.

"There is a cult of ignorance in the United States, and there has always been. The strain of anti-intellectualism has been a constant thread winding its way through our political and cultural life, nurtured by the false notion that democracy means that my ignorance is just as good as your knowledge."

— Isaac Asimov (1980)

As the biochemist and prolific science author Isaac Asimov once lamented: "There is a cult of ignorance in the United States, and there has always been.

"The strain of anti-intellectualism has been a constant thread winding its way through our political and cultural life, nurtured by the false notion that democracy means that my ignorance is just as good as your knowledge."

Is this eating “fresh”?



Subway makes bread with an ingredient called Azodicarbonamide. Azodicarbonamide is the chemical used to make yoga mats, shoe rubber and other rubbery objects. It's not supposed to be food or even eaten for that matter.

And it's definitely not “fresh”.

**Ask Subway to: REMOVE
AZODICARBONAMIDE
FROM THEIR PRODUCTS.**



foodbabe.com/subway

#NoWaySubway

The Food Babe's campaigns have succeeded, on totally spurious grounds, at getting food and cosmetics companies to remove preservatives and colouring agents from their products.



Food Babe products

ingredient list

0.10 oz.

lucky: Octyldodecanol, candelilla cera/cerifera (carnauba) wax /cera carnauba/carbonat, ethylhexyl methoxycinnamat salicornia herbacea extract, dimethyl isonylon -12, VP/eicosene copolymer, copernicia oil, caprylic/ capric triglyceride, propylene 15985), red 40 lake (CI 16035), ropyl dimethicone esters, retinyl palmitate,

hope: Octyldodecanol, candelilla cera/499), red 7 lake (CI 15850), yellow 6 lake (CI copernicia cerifera (carnauba) wax /cera propylene carbonate, ethylhexyl metho: palmitate, limonene, linalool, salicornia nylon -12, mica, VP/eicosene copolymer, (CI 16035), blue 1 lake (CI 42090), ppermint) oil, caprylic/ capric triglyceride, i-hydroxypropyl dimethicone esters, retinyl

lively: Octyldodecanol, candelilla cera/492, CI 77499), red 7 lake (CI 15850), red 40 lake copernicia cerifera (carnauba) wax /cera propylene carbonate, ethylhexyl metho: palmitate, salicornia herbacea extract, tynylon -12, VP/eicosene copolymer, mica, 77499), red 27 lake (CI 45410), ppermint) oil, caprylic/ capric triglyceride, i-hydroxypropyl dimethicone esters, retinyl

envy: Octyldodecanol, candelilla cera/e 40 lake (CI 16035), iron oxides (CI 77492, CI copernicia cerifera (carnauba) wax /cera propylene carbonate, ethylhexyl metho: palmitate, limonene, linalool, salicornia nylon -12, mica, VP/eicosene copolymer, (CI 16035), blue 1 lake (CI 42090), ppermint) oil, caprylic/ capric triglyceride, i-hydroxypropyl dimethicone esters, retinyl

exposed: Octyldodecanol, candelilla ce/492, CI 77499), red 7 lake (CI 15850), red 40 lake copernicia cerifera (carnauba) wax /cera (propylene carbonate, dimethicone, ethy: palmitate, salicornia herbacea extract, dac, nylon-12, VP/Eicosene copolymer, mica, 16035), yellow 5 lake (CI 19140), red 6 (ppermint) oil, caprylic/capric triglyceride, i-hydroxypropyl dimethicone esters, retinyl

fiery: Octyldodecanol, candelilla cera/e 77499), red 7 lake (CI 15850), red 40 lake (CI cera (carnauba) wax /cera carnauba/carbonate, ethylhexyl methoxycinnamat salicornia herbacea extract, dimethyl isonylon -12, VP/eicosene copolymer, copernicia oil, caprylic/ capric triglyceride, propylene ropyl dimethicone esters, retinyl palmitate, 499), red 7 lake (CI 15850), yellow 6 lake (CI

Made in USA.

Turns out she has herself been selling a number of pricey Food Babe approved products that contain the very same ingredients she railed against.

- This happened not once, but several times, with different chemical compounds.

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The "Food Babe" Blogger Is Full of Shit



Yvette d'Entremont

04/06/15 02:45PM Filed to: FOOD BABE


👍 5.19M



The only way in which Food Babe ever improved the quality of online food information, was by pissing off Yvette d'Entremont, an analytical chemist with a background in forensics and toxicology.

SCIBABE
 YVETTE D'ENTREMONT - SCIENTIST - WRITER - PUBLIC SPEAKER - FUNNY PERSON


SCIBLOG ▾ PUBLISHED WORK AND MEDIA COVERAGE ▾ SCIMAIL ▾ SCISTORE EVENTS ABOUT ▾



What I Learned From Watching The Hot Zone: Get Your Flu Shot
 May 27, 2019 SciBabe 0

"If you're talking about the most bang for your buck if you're worried about something you'll get sick with in the US, the flu shot is a no-brainer," says infectious disease specialist Dr. Michael Smit.

[f](#) [t](#) [in](#) [p](#) [e](#) [t](#) [o](#)



New NatGeo Series Hostile Planet: Nature's a Mother.
 April 22, 2019 SciBabe 1

MORE DICK JOKES!

Facebook

280 CHARACTER MUSINGS:

Tweets by @TheSciBabe

Yvette d'Entremont Retweeted

Radley Balko @radleybalko

When I read the original article, I remember thinking I really hope Buttigieg will take it seriously. Looks like he did. A rare encouraging moment in an era of utterly dismal politics. theroot.com/pete-buttigieg...

d'Entremont now runs the SciBabe blog, named in honour of Food Babe, where she debunks unscientific misinformation about food and nutrition, alternative medicine, the anti-vaccination movement, and anti-GMO activists.

Food Babe has recognised SciBabe as her arch-enemy, which I think is lovely.



The US Food and Drug Administration had to set the record straight after Food Babe's display of rank ignorance passing for expert commentary on CNN. CNN didn't carry their correction.

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What chance do regular viewers have, who don't know enough to tell experts from non-experts?

SCIENCE

Dr. Oz Defends His Pseudoscientific Claims As Harmless 'Flowery Language'

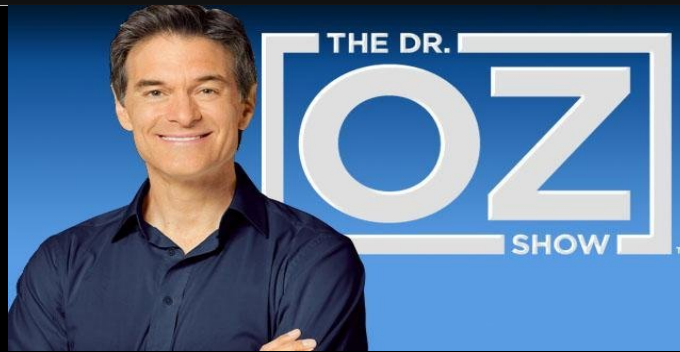
The celebrity doctor appeared before a U.S. Senate subcommittee today, which blamed his "miracle" claims for fueling a predatory industry of supplement sellers.



By Francie Diep | June 17, 2014



Then there's Dr Mehmet Oz, a cardiothoracic surgeon and purveyor of pseudoscientific quackery, who got hauled over the coals in front of Congress for selling miracle diets and bogus supplements.



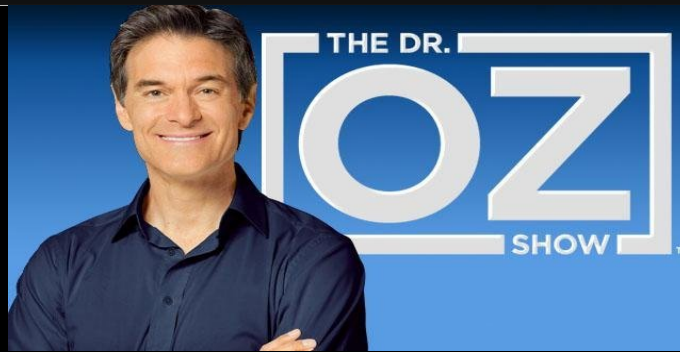
“Every hour you sit at work increases your mortality 11 percent. Think about that.”

Here are some of his choice scientific quotations.

“Every hour you sit at work increases your mortality by 11%. Think about that.”

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So I thought about that. Now I feel quite certain I’m going to die, and probably quite soon. Thanks for nothing, Dr. Oz.



“Every hour you sit at work increases your mortality 11 percent. Think about that.”

“Most food you drop is still perfectly edible. If it was in your eyesight the whole time, you can pick it up and eat it.”

The good doctor also has a theory about food contamination. “Most food you drop is still perfectly edible. If it was in your eyesight the whole time, you can pick it up and eat it.”

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It doesn't matter what you drop it on. If you keep looking at it, the bacteria will be too intimidated by your scary glare to crawl onto it.

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I hope this doesn't reflect his sanitary procedures in the operating room.

Abstract

Objective To determine the quality of health recommendations and claims made on popular medical talk shows.

Design Prospective observational study.

Setting Mainstream television media.

Sources Internationally syndicated medical television talk shows that air daily (*The Dr Oz Show* and *The Doctors*).

62%) of the 160 recommendations (80 from each show). For recommendations in *The Dr Oz Show*, evidence supported 46%, contradicted 15%, and was not found for 39%. For recommendations in *The Doctors*, evidence supported 63%, contradicted 14%, and was not found for 24%. Believable or somewhat believable

by a team of experienced evidence reviewers. Secondary outcomes included topics discussed, the number of recommendations made on the shows, and the types and details of recommendations that were made.

Results We could find at least a case study or better evidence to support 54% (95% confidence interval 47% to 62%) of the 160 recommendations (80 from each show). For recommendations in *The Dr Oz Show*, evidence supported 46%, contradicted 15%, and was not found for 39%. For recommendations in *The Doctors*, evidence supported 63%, contradicted 14%, and was not found for 24%. Believable or somewhat believable evidence supported 33% of the recommendations on *The Dr Oz Show* and 53% on *The Doctors*. On average, *The Dr Oz Show* had 12 recommendations per episode and *The Doctors* 11. The most common recommendation category on *The Dr Oz Show* was dietary advice (39%) and on *The Doctors* was to consult a healthcare provider (18%). A specific benefit was described for 43% and 41% of the recommendations made on the shows respectively. The magnitude of benefit was described for 17% of the recommendations on *The Dr Oz Show* and 11% on *The Doctors*. Disclosure of potential conflicts of interest accompanied 0.4% of recommendations.

Conclusions Recommendations made on medical talk shows often lack adequate information on specific benefits or the magnitude of the effects of these benefits. Approximately half of the recommendations have either no evidence or are contradicted by the best available evidence. Potential conflicts of interest are rarely addressed. The public should be skeptical about recommendations made on medical talk shows.

According to a study published in the British Medical Journal, scientific evidence was lacking or contradictory for more than half of all Dr. Oz's recommendations.

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Let that sink in: a qualified medical doctor on television, whose advice to viewers is supported by evidence less than half the time.

Conditions & Treatments

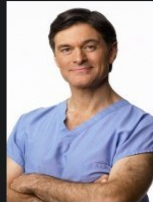
Educational Programs

News

Newsletters

Patient Stories

Physician's Profile



Mehmet C. Oz, MD, FACS

Director, Integrative Medicine Center



Affiliations:

NewYork-Presbyterian/Columbia

NewYork-Presbyterian/Weill Cornell

Board Certificates:

Surgery, Thoracic Cardiovascular

Thoracic and Cardiac Surgery

Surgery, General

Researcher Profile

Primary Locations:

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177 Fort Washington Avenue

Suite: 7-435

New York, NY 10032

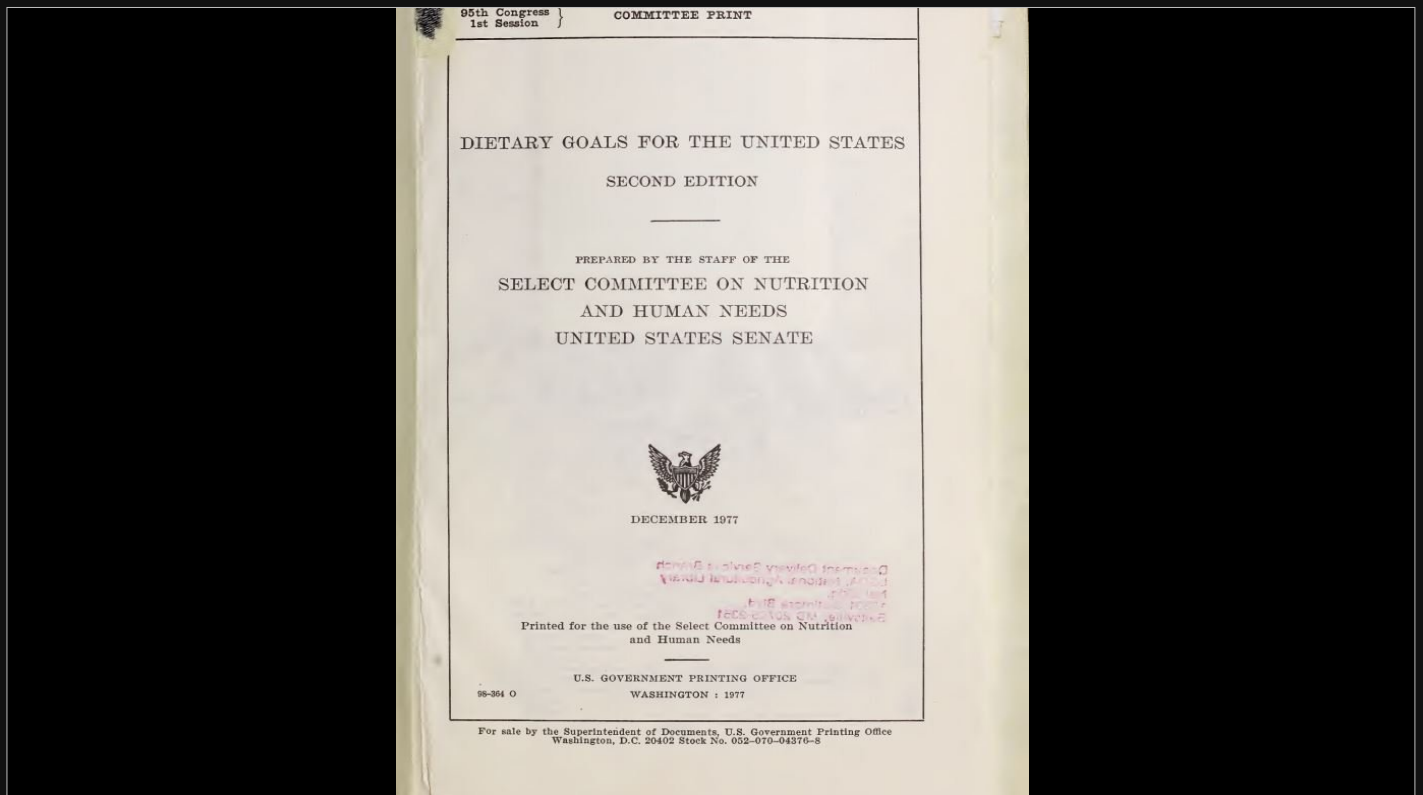
Yet Dr Oz is still on the faculty in the department of surgery at Columbia University, where he is the director of the integrative medicine centre. Integrative medicine is when they mix medicine with bullshit. It's a big thing at universities right now.

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New York Magazine listed him among the best doctors of the year. Time listed him among the world's 100 most influential people. The World Economic Forum named him a global leader of tomorrow. Donald Trump appointed him to the Council on Sports, Fitness, and Nutrition.

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How are people to tell dangerous quacks apart from actual authorities, when even the supposed authorities bestow such laurels upon the quacks?



The appeal of authority doesn't end with popular internet or television personalities.

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One might think that government advice about diet and lifestyle should be followed because it is probably backed by sound evidence. But even in major developed countries, that is often not the case.

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Perhaps most infamously, the US Senate Select Committee on Nutrition and Human needs, under then-Senator George McGovern, issued the first dietary goals for Americans in 1977. The UK adopted similar guidelines in 1983, and it has spread worldwide since.

McGovern Committee *Dietary Guidelines for Americans*








- ✿ increase consumption of fruits, vegetables, and whole grains;
- ✿ decrease consumption of refined and processed sugars and foods high in such sugars;
- ✿ decrease consumption of foods high in total fat and animal fat, and partially replace saturated fats with polyunsaturated fats;
- ✿ decrease consumption of eggs, butterfat, and other high-cholesterol foods;
- ✿ decrease consumption of salt and foods high in salt;
- ✿ and choose low-fat and non-fat dairy products instead of high-fat dairy products (except for young children)

It recommended that people increase consumption of fruits, vegetables, and whole grains;

- decrease consumption of sugars;
- decrease consumption fat and replace saturated fats with polyunsaturated fats;
- decrease consumption of eggs, butterfat, and other high-cholesterol foods;
- decrease consumption of salt;
- and choose low-fat and non-fat dairy products.

DIETARY GUIDELINES FOR AMERICANS

evolution over time

	1980	1985	1990	1995	2000	2005	2010	2015
Fruits & Vegetables 	Eat a variety of foods, including fruits and vegetables		Eat 2-4 servings of fruit and 3-5 servings of vegetables daily			Eat 2 cups of fruit and 2½ cups of vegetables daily		
Grains 	Eat a variety of foods, including whole-grain and enriched breads, cereals, and grain products		Eat 6+ servings of breads, cereals, rice, and pasta per day. Have several servings of whole-grain breads and cereals daily. One serving is about ½ cup of cooked pasta or rice, 1 slice of bread, or 1 oz of dry cereal.			Eat 6 servings (6 oz eq) of breads, cereals, rice, and pasta per day. At least half of the servings should be whole grains		
Protein Foods 	To avoid too much fat, saturated fat, and cholesterol, choose lean meat, fish, poultry, dry beans, and peas as protein sources		Eat about 6 oz of meats, poultry, fish, dry beans and peas, eggs, and nuts per day. Trim fat from meat		Eat about 6 oz of fish, shellfish, lean poultry, other lean meats, beans, or nuts daily. Limit intake of high-fat processed meats		Eat 5.5 oz of protein foods, including lean meats, poultry, fish, eggs, nuts, or dry beans daily Teen boys and men should eat less of meat, poultry, and eggs	
Saturated Fat 	Avoid too much saturated fat		Choose a diet low in saturated fat			Consume <10% of calories from saturated fatty acids Replace with mono and polyunsaturated fatty acids		
Cholesterol 	Avoid too much cholesterol		Choose a diet low in cholesterol			Consume <300 mg of cholesterol per day		Eat as little as possible
Sodium 	Avoid too much sodium		Choose a diet low in sodium		Choose and prepare foods with less salt		Consume <2,300 mg of sodium per day <1,500 mg for people with increased risk	
Added Sugars 	Avoid too much sugar		Choose a diet moderate in sugars			Choose and prepare foods and beverages with little added sugars or caloric sweeteners		Reduce intake of added sugars Consume <10% of calories from added sugars

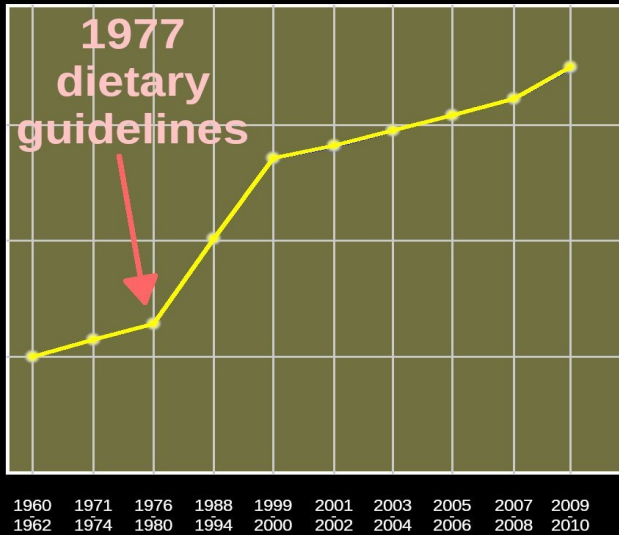
Note: specific recommendations are based on a 2,000-calorie diet.



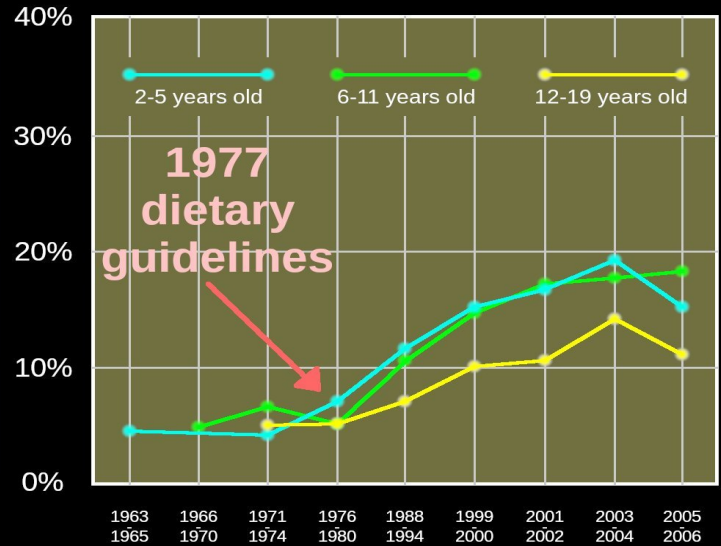
There was no good evidence for this advice, and it was controversial from the start. Yet the guidelines have changed surprisingly little over the years. Its almost as if no new dietary research has been conducted since 1980.

Prevalence of obesity (US)

Adults (20-74)

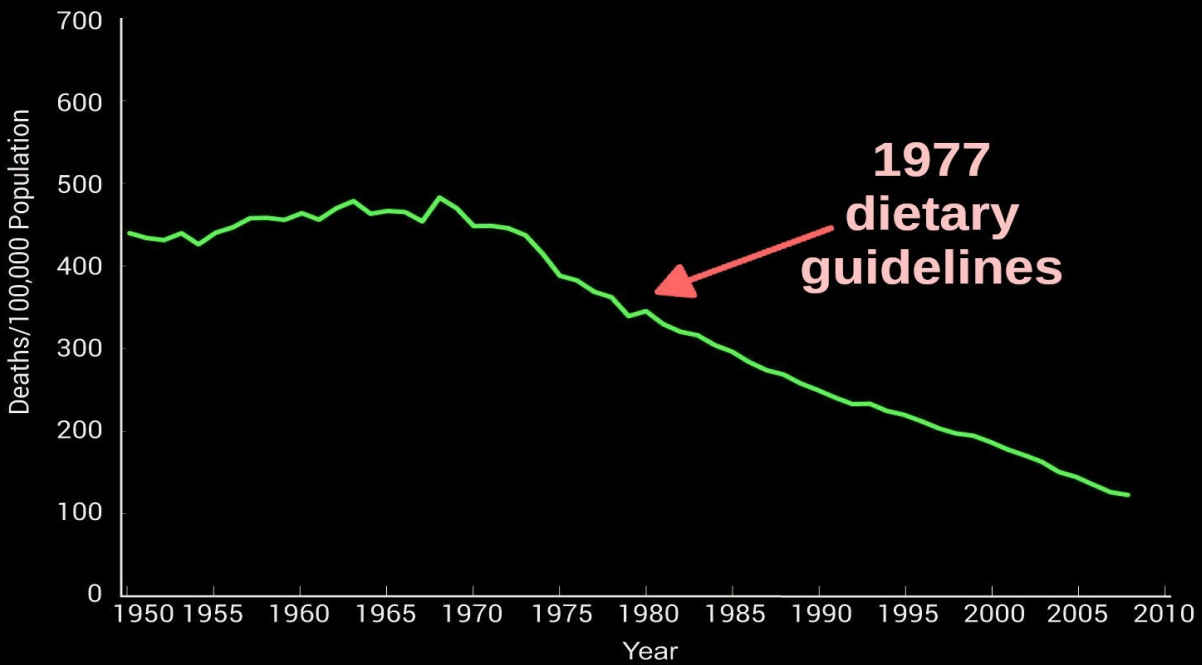


Children



The 1977 dietary guidelines backfired catastrophically. The substantial reduction of fat in American diets since 1977 marked the start of a sharp rise in obesity and diabetes, in both adults and children.

Age-adjusted death rates for coronary heart disease



Source: National Heart, Lung, and Blood Institute (2012)

Death rates due to coronary heart disease did go down after 1977, but that decline had started ten years earlier.



Volume 63, Issue 2
April 2008

Article Contents

Abstract

LOW-CALORIE, LOW-FAT
DIETS FOR WEIGHT
REDUCTION

THE DIET-HEART
HYPOTHESIS

How the Ideology of Low Fat Conquered America FREED

Ann F. La Berge

Journal of the History of Medicine and Allied Sciences, Volume 63, Issue 2, April 2008, Pages 139–177, <https://doi.org/10.1093/jhmas/jrn001>

Published: 23 February 2008

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Abstract

This article examines how faith in science led physicians and patients to embrace the low-fat diet for heart disease prevention and weight loss. Scientific studies dating from the late 1940s showed a correlation between high-fat diets and high-cholesterol levels, suggesting that a low-fat diet might prevent heart disease in high-risk patients. By the 1960s, the low-fat diet began to be touted not just for high-risk heart patients, but as good for the whole nation. After 1980, the low-fat approach became an overarching

It is now well-established in the academic literature that a misplaced faith in health authorities led to wide acceptance of the low-fat ideology...

openheart Evidence from randomised controlled trials did not support the introduction of dietary fat guidelines in 1977 and 1983: a systematic review and meta-analysis

Zoë Harcombe,¹ Julien S Baker,¹ Stephen Mark Cooper,² Bruce Davies,³ Nicholas Sculthorpe,¹ James J DiNicolantonio,⁴ Fergal Grace¹

To cite: Harcombe Z, Baker JS, Cooper SM, *et al*. Evidence from randomised controlled trials did not support the introduction of dietary fat guidelines in 1977 and 1983: a systematic review and meta-analysis. *Open Heart* 2015;2:e000196. doi:10.1136/openhrt-2014-000196

Received 18 September 2014
Revised 26 November 2014
Accepted 2 December 2014

ABSTRACT

Objectives: National dietary guidelines were introduced in 1977 and 1983, by the US and UK governments, respectively, with the ambition of reducing coronary heart disease (CHD) by reducing fat intake. To date, no analysis of the evidence base for these recommendations has been undertaken. The present study examines the evidence from randomised controlled trials (RCTs) available to the US and UK regulatory committees at their respective points of implementation.

Methods: A systematic review and meta-analysis were undertaken of RCTs, published prior to 1983, which examined the relationship between dietary fat, serum cholesterol and the development of CHD.

Results: 2467 males participated in six dietary trials:

KEY MESSAGES

What is already known about this subject?

- ▶ Dietary recommendations were introduced in the US (1977) and in the UK (1983) to (1) reduce overall fat consumption to 30% of total energy intake and (2) reduce saturated fat consumption to 10% of total energy intake.

What does this study add?

- ▶ No randomised controlled trial (RCT) had tested government dietary fat recommendations before their introduction. Recommendations were made for 276 million people following secondary studies of 2467 males, which reported identical all-cause mortality. RCT evidence did not support the introduction of dietary fat guidelines.

...although the low-fat dietary guidelines were not supported by any evidence from randomised controlled trials...

Spring 4-29-2016

How the U.S. Low-Fat Diet Recommendations of 1977 Contributed to the Declining Health of Americans

Julia Reedy

University of Connecticut - Storrs, julia.reedy@uconn.edu

...and in fact contributed to the declining health of Americans.



The advice to reduce salt intake, too, had little basis in science.

-

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THE SCIENCES

It's Time to End the War on Salt

The zealous drive by politicians to limit our salt intake has little basis in science

By Melinda Wenner Moyer on July 8, 2011  121



LATEST NEWS



Lab Mice Are Poor Models of the Human Immune System



Gene Editing Takes on Heart Disease

Although warnings about a link between salt and high blood pressure go back to 1904, modern science says that if you consume moderate quantities of salt, you'll be just fine.

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THE SCIENCES

It's Time to End the War on Salt

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This week a meta-analysis of seven studies involving a total of 6,250 subjects in the *American Journal of Hypertension* found no strong evidence that cutting salt intake reduces the risk for heart attacks, strokes or death in people with normal or high blood pressure. In May European researchers publishing in the *Journal of the American Medical Association* reported that the less sodium that study subjects excreted in their urine—an excellent measure of prior consumption—the greater their risk was of dying from heart disease. These findings call into question the common wisdom that excess salt is bad for you, but the evidence linking salt to heart disease has always been tenuous.

Recent studies found that there is no strong evidence that cutting salt intake reduces the risk for heart attacks, strokes or death, even in people who already have high blood pressure.

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THE SCIENCES

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Lower salt consumption could actually increase your risk of dying of heart disease...

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Food & Recipes > News >

CDC Salt Guidelines Too Low for Good Health, Study Suggests

But agency stands by its recommendations for preventing stroke, heart disease



FROM THE WEBMD ARCHIVES

By Steven Reinberg

HealthDay Reporter

WEDNESDAY, April 2, 2014 (HealthDay News) -- Don't toss out your salt shaker just yet: A new analysis from Denmark finds current recommended salt guidelines may be too low.

The new research indicates that Americans consume a healthy amount of salt, even though daily averages exceed recommendations from the U.S. Centers for Disease Control and Prevention.

TODAY

... and recommended government guidelines on salt may actually be too low for the average diet.

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CDC Salt Guidelines Too Low for Good Health, Study Suggests

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TODAY



But do you think the government bureaucrats actually care about the science? Of course not.



And what about sugar?

HEALTH DIET/NUTRITION

Sugar Is Definitely Toxic, a New Study Says

Alice Park @aliceparkny | Oct. 27, 2015 Updated: Oct. 28, 2015 2:42 PM ET

That's what scientists have concluded from a first-of-its-kind diet study involving overweight kids

Again, the field abounds with extreme conclusions based on shockingly bad research.

The science is in: the case for a sugar tax is overwhelming
Robert Lustig

Our new study proves the harm to child health, so cutting public consumption makes political sense

Glaring Flaws in Sugar Toxicity Study

by sasusa | Oct 27, 2015 | Control group, Multiple testing | 16 comments



Dr Robert Lustig's sugar study is so bad a first-year student could rip it apart in half an hour, and yet he is celebrated as the heroic scientist behind sugar taxes.

A new study has claimed that obese children could find rapid health improvement by small sugar reductions, without caloric restrictions. According to the lead author, Robert Lustig, the new study shows that sugar may not be harmful because of how it leads to weight gain, but "still, sugar is metabolically harmful because it's sugar." According to the study, a diet with 10 percent sugar in place of one with 28 percent sugar can in just nine days produce a reduction in blood pressure, triglycerides and LDL-cholesterol—and improve glucose tolerance and lower levels of insulin circulating in the blood.

Does a miracle diet promising incredible results in just nine days sound too good to be true? Not to the news media, which gobbled up the study's conclusions as if, indeed, sugar really is the big evil in our diet (see sidebar). But as we shall see, the science in the study is about as good as it is for other fad diets.

Lots of media coverage but no critical thinking—except at *The Guardian*

What the study attempted to do

Forty-three obese kids participated in the study, in which they were provided with



The South African government introduced a tax on sugar-sweetened beverages last year.

The Potential Impact of a 20% Tax on Sugar-Sweetened Beverages on Obesity in South African Adults: A Mathematical Model

Mercy Manyema, Lennert J. Veerman, Lumbwe Chola, Aviva Tugendhaft, Benn Sartorius, Demetre Labadarios, Karen J. Hofman

Published: August 19, 2014 • <https://doi.org/10.1371/journal.pone.0105287>

Article	Authors	Metrics	Comments	Media Coverage
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- Abstract
- Introduction
- Materials and Methods
- Results
- Discussion
- Supporting Information
- Acknowledgments
- Author Contributions
- References
- Reader Comments (0)
- Media Coverage (0)
- Figures

Abstract

Background/Objectives

The prevalence of obesity in South Africa has risen sharply, as has the consumption of sugar-sweetened beverages (SSBs). Research shows that consumption of SSBs leads to weight gain in both adults and children, and reducing SSBs will significantly impact the prevalence of obesity and its related diseases. We estimated the effect of a 20% tax on SSBs on the prevalence of and obesity among adults in South Africa.

Methods

A mathematical simulation model was constructed to estimate the effect of a 20% SSB tax on the prevalence of obesity. We used consumption data from the 2012 SA National Health and Nutrition Examination Survey and a previous meta-analysis of studies on own- and cross-price elasticities of SSBs to estimate the shift in daily energy consumption expected of increased

The entire justification for the tax was a single paper, presenting a so-called "mathematical model" (that is, an Excel spreadsheet) of the expected impact of a 20% sugar tax.

It concluded that 220,000 fewer South Africans will be obese as a result of this tax.

The South African Guidelines for Healthy Eating and Food Guide

For more information contact: Department of Health. Directorate: Nutrition
Private Bag X828; Pretoria 0001.

This information pamphlet provides advice to South Africans 5 years and older about healthy food choices for healthy living. Following this advice can help you and your family to have healthy eating plans. Eating in this way helps your body to stay healthy; helps you to do everyday tasks, helps you to think and learn, and makes you feel better overall. A healthy eating plan provides your body with energy to function and helps prevent short and long-term illnesses.

Energy needs for different groups of people

	Energy intake kilojoules (kJ) per day	
	BOYS /MEN	GIRLS / WOMEN
5 – 9 years old	6 500	6 500
10 – 13 years old	8 500	8 500
14 – 18 years old	10 500	8 500 to 10 500
Adults	10 500	8 500
Sedentary and older adults	8 500	6 500

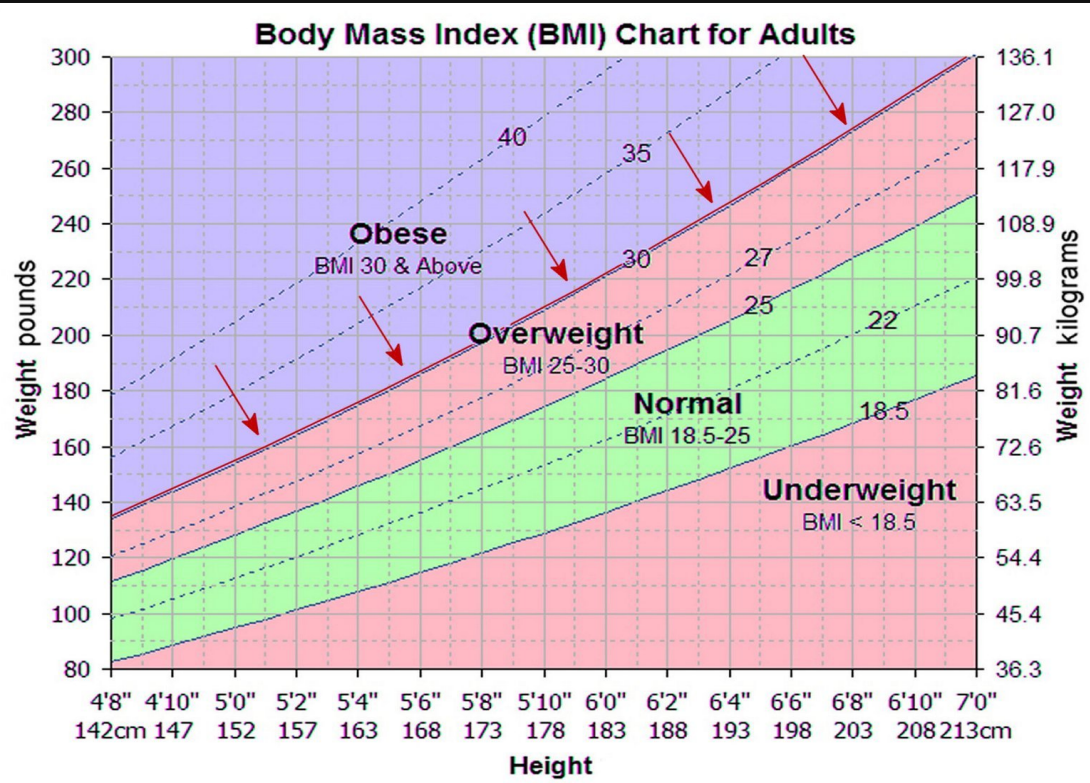
Even if you very generously assume that all the study's assumptions come true, which they won't, it says daily energy intake will decrease by 36kJ.

-

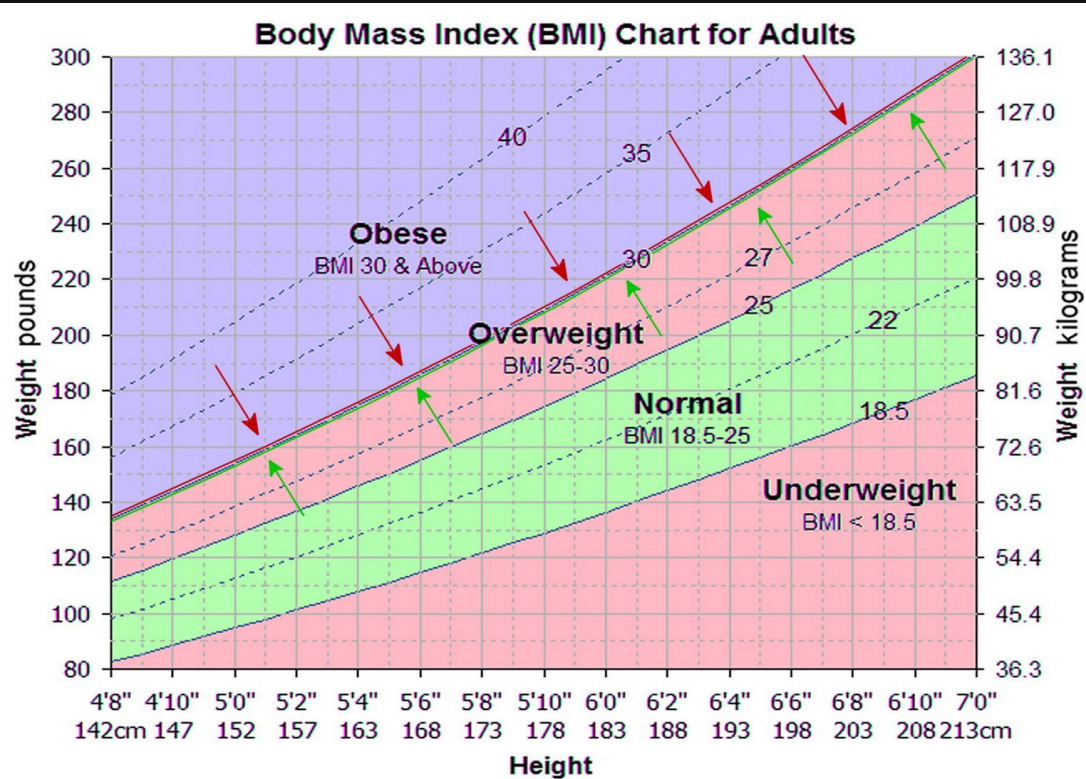
That is only 0.55% of the recommended daily energy intake of a child.



This reduction will result in an average weight reduction of 383 grams, which is hardly detectable on a bathroom scale.



So the 220,000 people that will no longer be classified as obese, or 0.4% of the population, will go from fractionally above the line of obesity...



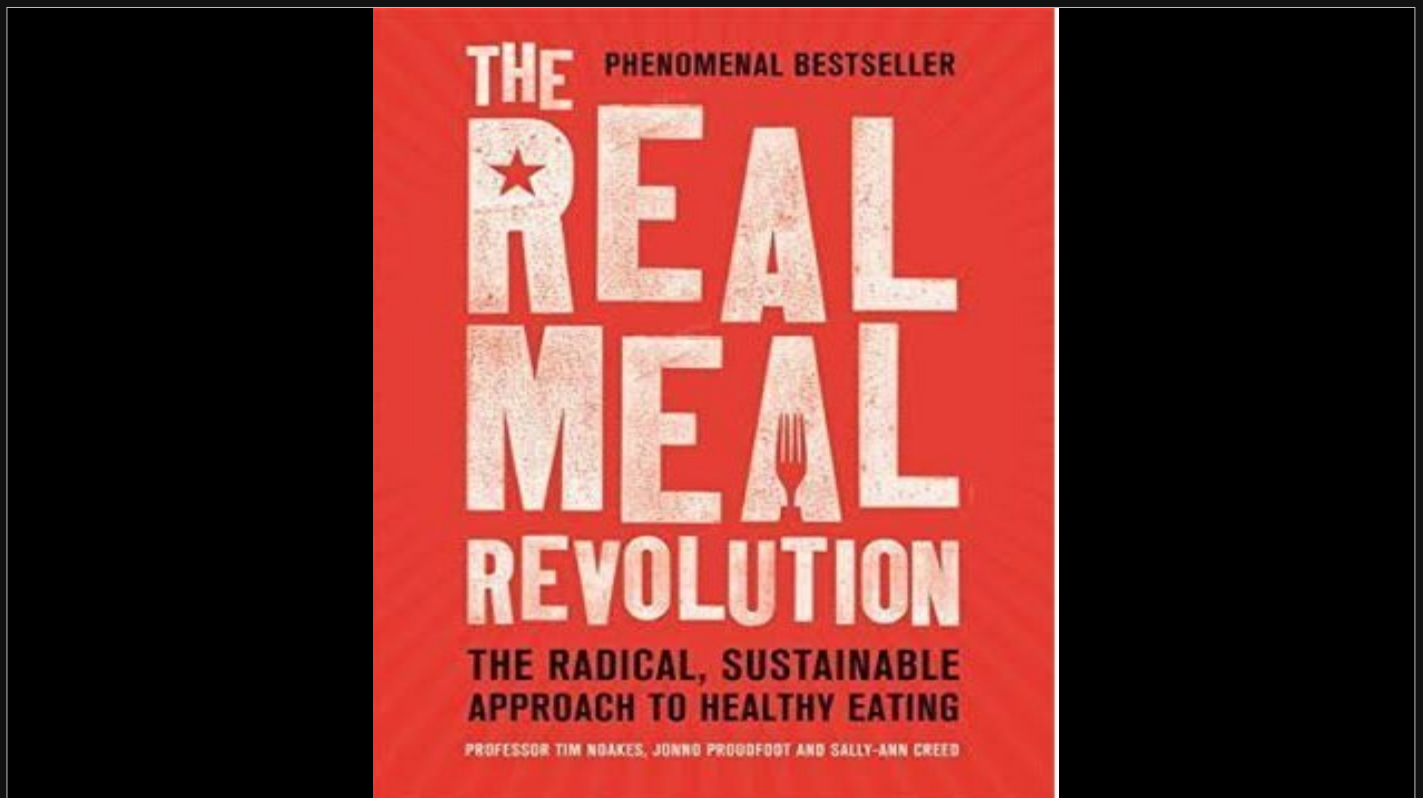
to fractionally below that line.

-

Suggesting that losing less than 400g in bodyweight will make any difference to anyone whatsoever, or reduce the government's healthcare costs, is simply absurd.

-

But hey, over R2 billion a year in tax revenue is nothing to sniff at.



The people who really took the sugar advice to heart were the Banting crowd, egged on by sports nutritionist Tim Noakes.

-

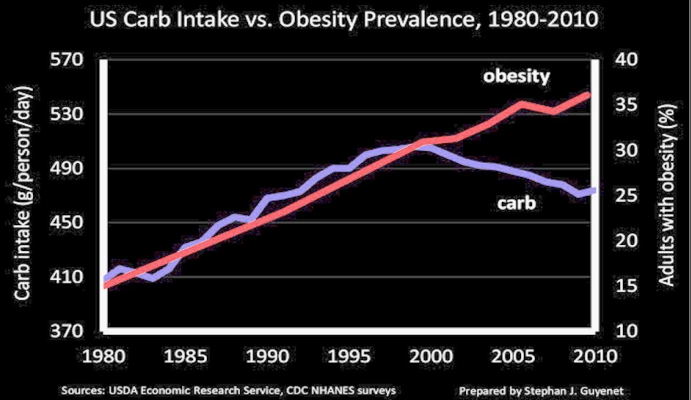
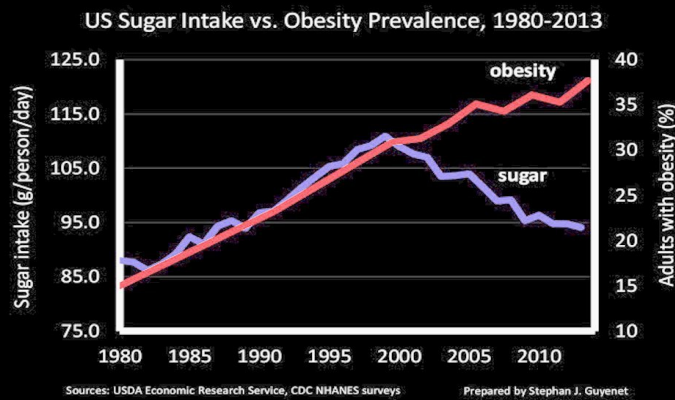
He jumped on the failure of the low-fat guidelines, and instead advocated a low-carb, high-fat diet. Ever since, instead of cutting out fat to diet, people have been cutting out carbs instead.



It was like a cult. They came up with the most absurd recipes.

-

Of course, Banting is really just a revival of the old Atkins diet. So how has its new incarnation worked for them?



Well... it hasn't. Neither cutting carbs nor sugar did anything for the obesity rate.



Pieter Bruegel the Elder (1568)

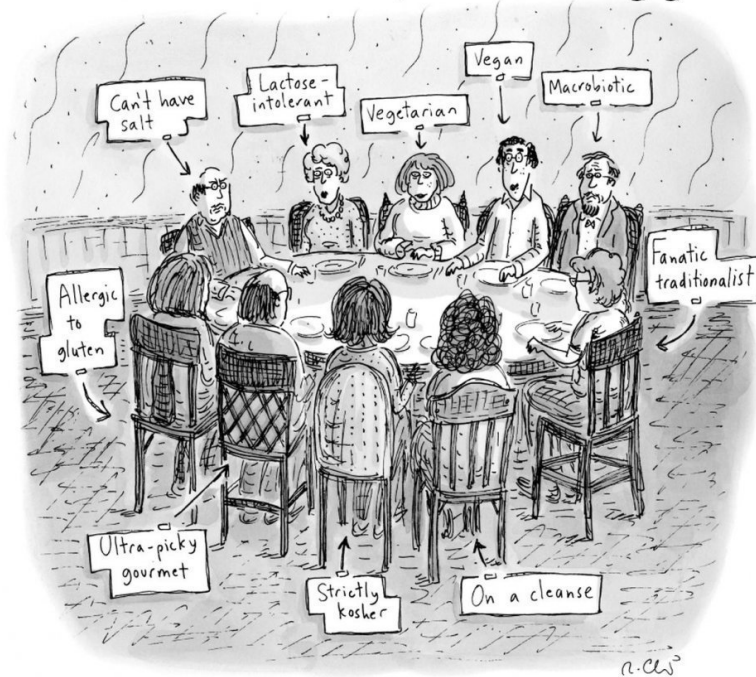
The blind leading the blind

So we have a real problem here. Even the real health authorities, in academia and government, often give dietary advice without sound scientific backing, and make food regulations based on shoddy, biased research.

-

They've proven to be not much better than Oprah, and Gwynneth Paltrow and Food Babe and Dr Oz. It's like the blind leading the blind.

The Last Christmas Supper



A second reason people believe weird things about food is that it has become fashionable to be intolerant to something or the other, or have a condition that somehow makes one special.

-

We all know the kind of person who is lactose intolerant, gluten intolerant, pescatarian, fruitarian, or even revels in the belief that they're autistic because an online survey said so, and all this makes them special snowflakes that deserve special treatment.

6,963 views | Jan 31, 2019, 10:39am EST

Dairy Industry Struggles In A Sea Of Plant-Based Milks

**Beth Kaiserman** Former Contributor

Food & Drink

*I cover wellness in food & drink, including CBD and nondairy products.***TWEET THIS**

Dairy farmers are seeking stable products, like plant-based milks, while struggling to survive in a volatile economy.

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in



Fernand Gagne, with his granddaughter, started his career in the dairy industry and now owns Gagne Maple in Swanton, Vt. [-] ©RUSSELL FRENCH PHOTOGRAPHY

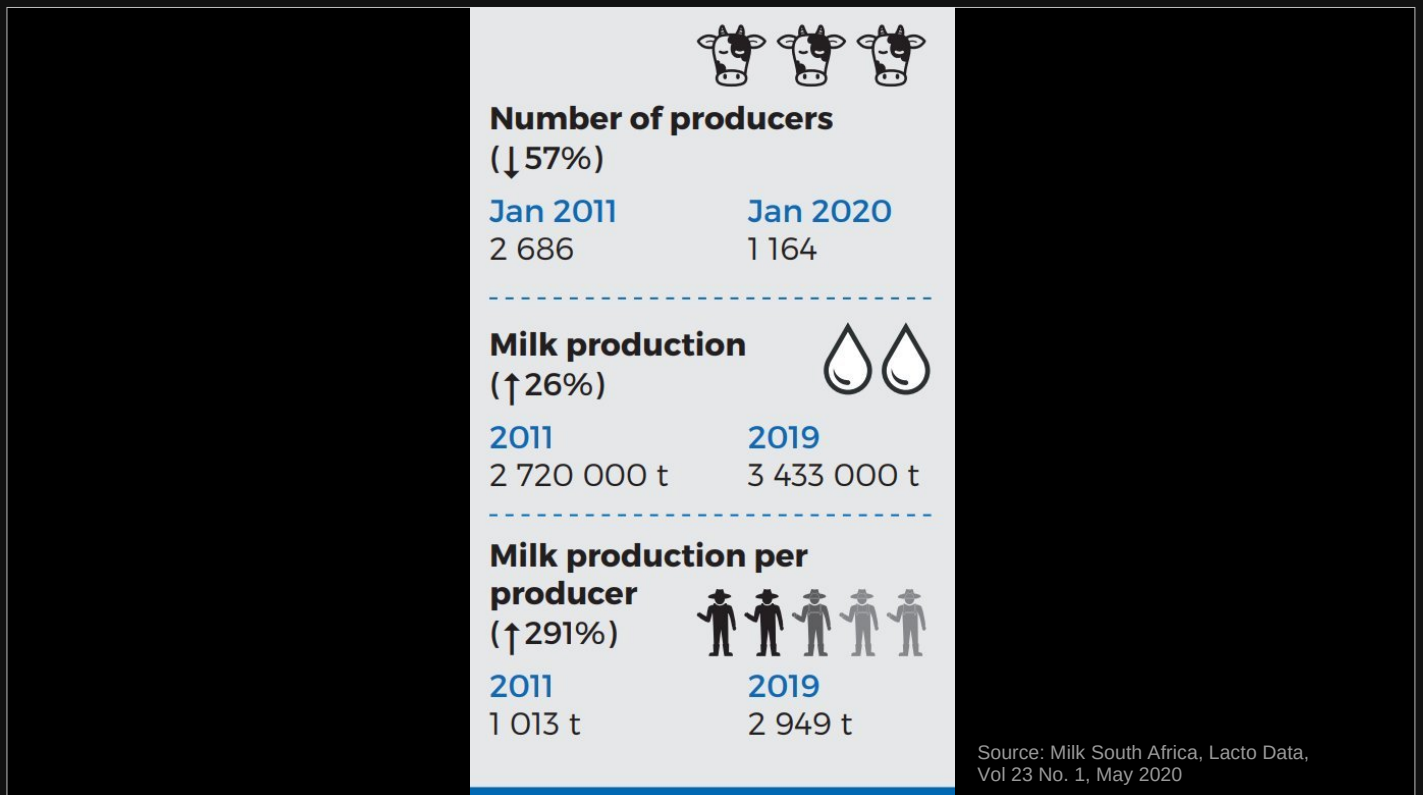
This trend to be fussy about food poses a serious risk to food manufacturers, and not least the dairy industry.

-

In the US, the average American drinks 40% less milk today than they drank in 1975.

-

Non-dairy milk sales are growing sharply, while dairy sales keep declining.



Although raw milk production in SA is up 26% since 2011, margin pressure is high, and producer prices have stagnated for years.

-

As a result, industry consolidation has seen the number of producers fall by more than half over that same period.

-

As followers of global trends, one can expect upmarket consumers to follow the American move away from dairy towards plant-based products.

BRIEF

Consumers reveal why they buy plant-based dairy alternatives



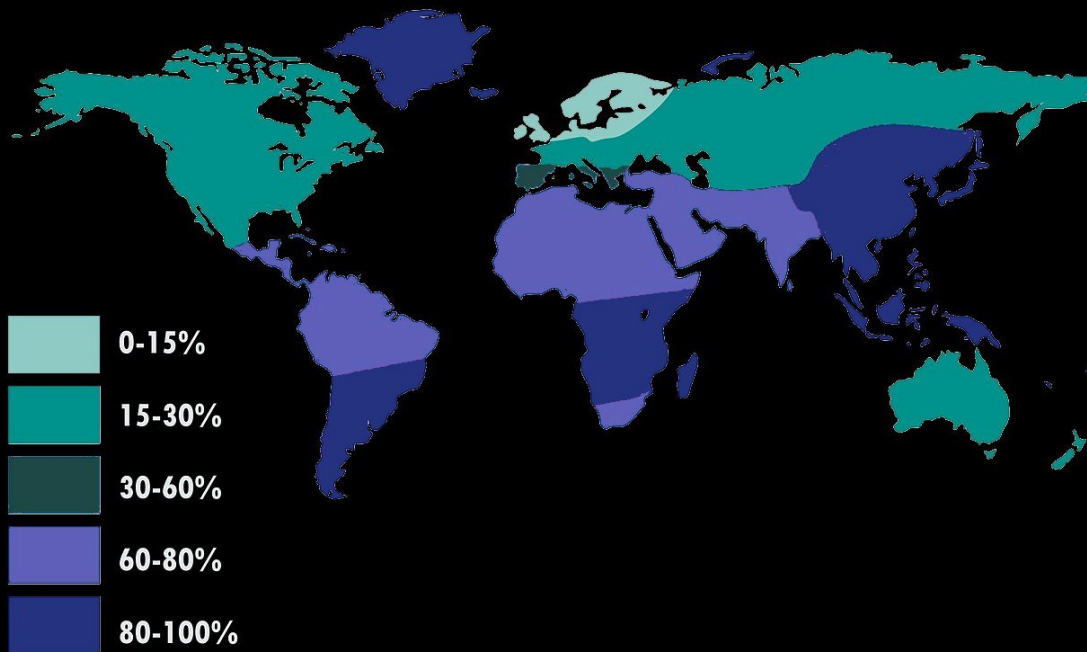
Califia Farms

When asked, almost half of the consumers who drink plant-based milks say that they taste better. A third believe they're more healthy than dairy.

-

A significant proportion of those who switched from dairy, however, are lactose-intolerant, or have convinced themselves that they are lactose-intolerant.

Worldwide prevalence of lactose intolerance in modern populations



This condition, which involves an inability to digest the sugar lactose, causing gas and other gastrointestinal symptoms, is fairly rare among northern Europeans, but believed to be surprisingly common in African, Asian and South American populations.


-

Cultures that evolved alongside domesticated animals that were kept for milking also evolved the ability to digest lactose.

-

Many cultures did not, and fermented dairy products such as yoghurt, buttermilk and maas are far more suited to the diets of such people.

Prevalence of Self-reported Lactose Intolerance in a Multiethnic Sample of Adults

Nicklas, Theresa A. DrPH; Qu, Haiyan PhD; Hughes, Sheryl O. PhD; Wagner, Sara E. MPH; Foushee, H. Russell PhD; Shewchuk, Richard M. PhD [Author Information](#) 

Nutrition Today: September–October 2009 - Volume 44 - Issue 5 - p 222-227
doi: 10.1097/NT.0b013e3181b9caa6

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According to the National Institute of Diabetes and Digestive and Kidney Diseases, between 30 and 50 million Americans have the potential for lactose-intolerance symptoms. However, lactose-intolerance prevalence rates in practical life settings may be lower than originally suggested. The goal of this study was to determine the prevalence of self-reported lactose intolerance among a national sample of European American (EA), African American (AA), and Hispanic American (HA) adults. A nationally

The commonly accepted prevalence statistics seen on that map seem very high, however, and there have been studies that found a far lower prevalence of lactose intolerance among all ethnic groups.

-



For many people, supposed intolerance to dietary ingredients are imagined, or even self-induced.

-

The heavy lifters in your digestive system are the microbes that break down various foods. There are up to a thousand species that each specialise in a particular type of food.

-



Judy Scheel Ph.D.,
L.C.S.W., CEDS
When Food Is Family

Gluten-Free: Fad, Friend, or Foe?"

Is a Gluten-Free "life-style," really code for an Eating Disorder?

Posted Nov 02, 2013



There are no fewer than 100 types of diets posted on WebMD's list of "Weight Loss and Diet Plans." <http://www.webmd.com/diet> Some of them are memorable - shock value intended – the Grapefruit Diet, Personality Type Diet and Blood Type Diet. Some of them are true attempts at finding a healthy way to eat and live – true lifestyle diets – Mediterranean Diet and Dr. Andrew Weil's Eat Right for Life. Some of them are down right dangerous – Raspberry Ketones, No Fat Diet and African Mango, to name just a few.

What happens when you go on a diet that cuts out entire food groups is that you kill off the associated gut microbes, which, ironically, can make you intolerant to the food group you cut out.

-

That's why people who cut carbs out of their diet find that a few months down the line, they can't even drink beer anymore, which is really tragic.

-

Psychologists believe that many cases of supposed intolerance for food ingredients such as lactose or gluten are attention-seeking behaviour, or an excuse for an eating disorder.



Clinical Trial > Am J Clin Nutr. 1996 Aug;64(2):232-6. doi: 10.1093/ajcn/64.2.232.

Colonic Adaptation to Daily Lactose Feeding in Lactose Maldigesters Reduces Lactose Intolerance

S R Hertzler ¹, D A Savaiano

Affiliations + expand


PMID: 8694025 DOI: 10.1093/ajcn/64.2.232

Abstract

We conducted blinded, controlled crossover studies to determine the effect of daily lactose feeding on colonic adaptation and intolerance symptoms. The initial study with nine lactose maldigesters showed a threefold increase in fecal beta-galactosidase activity after 16 d of lactose feeding. To determine the effects of this adaptation on breath hydrogen and intolerance symptoms, 20 lactose-maldigesting adults were randomly assigned to lactose or dextrose supplementation for 10 d (days 1-10), crossing over to the other period for days 12-21. The sugar dosage was increased from 0.6 to 1.0 g.kg⁻¹.d⁻¹, subdivided into three equal doses, by adjusting the dose every other day. Symptoms during lactose supplementation and comparison of symptoms during the lactose and dextrose

Conversely, slowly introducing, or reintroducing, lactose into the diet can gradually improve tolerance, as the body's digestive enzymes and gut microbiome adapt to digest it.

Prevalence of Self-reported Lactose Intolerance in a Multiethnic Sample of Adults

Nicklas, Theresa A. DrPH; Qu, Haiyan PhD; Hughes, Sheryl O. PhD; Wagner, Sara E. MPH; Foushee, H. Russell PhD; Shewchuk, Richard M. PhD [Author Information](#) 

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That study I mentioned earlier concludes: “Health professionals need to be aware of the misrepresentation of currently estimated lactose-intolerance rates and should continue to encourage individuals with lactose intolerance to consume dairy foods to help meet key nutrient recommendations.”

—

How well do plant based alternatives fare nutritionally compared to cow's milk?

Sai Kranthi Vanga  & Vijaya Raghavan

Journal of Food Science and Technology, 55, 10–20(2018) | [Cite this article](#)

7322 Accesses | 41 Citations | 777 Altmetric | [Metrics](#)

Abstract

Due to the issues like lactose intolerance and milk allergy arising from the consumption of cow's milk, there has been an increased demand in the plant based alternative milks around the world. Food industry has addressed these demands by introducing various milk beverages which are promoted as alternatives coming from plant sources which include almond milk and soy milk. Though they are popularly advertised as healthy and wholesome, little research has been done in understanding the nutritional implications of consuming these milk beverages in short term and long term. Further, consumers associate these alternatives to be a direct substitute of cow's milk which might not be true in all cases. This review tries to address the issue by outlining the differences between cow's milk and commercially available alternative

Another study compared the most popular plant-based milks to dairy, and found that dairy outperformed all of them in terms of overall nutritional value.

-

This suggests one way out of the conundrum for dairy producers: point to comparative nutritional analyses to assure people that, well, milk is good for you.

-

However, diet fads, and especially the trend of parading fashionable food intolerances, are persistent. They're often rooted in deep-seated psychological issues, and which are hard to change merely by marketing.

Ironically, Che Guevara's posthumous popularity is almost entirely due to capitalism, private property and the profit motive.



A third major reason why people are willing to believe the palpably untrue is that it feeds into their ideological opposition to capitalism.

-

Anti-capitalism has always appealed to the youth, and in the 21st century, perhaps more than ever. They don't seem to see the irony in the fact that I couldn't even find a decent photo of a stall selling Che Guevara t-shirts that wasn't itself watermarked and sold by stock photo companies.

-

Anti-capitalism is a profitable capitalist industry. And it's in anti-capitalism that we see a third reason why people believe strange things about food.

Opinionista • Ivo Vegter • 11 June 2019

Strong GMO opponents unmoved by facts

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Ivo Vegter

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Genetic engineering is revolutionising crop farming, bringing benefits to farmers, the environment and consumer health. Its opponents, however, are not swayed by any of the science. On the contrary, it makes them believe the exact opposite of the truth.



Listen to this article

8:16

A recent study of 21 years of GM (genetically modified) maize production in Spain and Portugal found that genetically engineered crops outperformed conventional crops in every respect. But don't tell people who are irrationally afraid of GMOs (genetically modified organisms). They don't want to hear it, and if they do, it'll just make them more stubbornly opposed. There are none so blind as those who will not see.

Let's have a peek at the study findings. And while we're at it, we'll compare it to some of the things a leading South African anti-GMO lobby group, [Biowatch](#), says.

Biowatch says GMOs are "scientifically, economically and socially" controversial, and that there is "increasing evidence of GMOs creating environmental and health risks and having dubious economic advantages".

Ivo Vegter is a columnist and the author of *Extreme Environment*, a book on environmental exaggeration and how it harms emerging economies. He writes on this and many other matters, from the perspective of individual liberty and free markets.

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Last year, I wrote a column about an interesting set of related studies about public perceptions of genetically-modified organisms and food.

What Influences Consumer Evaluation of Genetically Modified Foods?

Nguyen Pham and Naomi Mandel

Abstract

Genetically modified (GM) foods have attracted a great deal of controversy. While some consumers and organizations regard GM foods as safe, many other consumers and organizations remain concerned about their potential health risks. The results of three studies suggest that consumers respond differently to persuasive messages regarding GM foods on the basis of their preexisting attitudes. Weak anti-GM consumers tend to comply with a variety of pro-GM messages. In contrast, strong anti-GM consumers exhibit message-opposing behavior. Moreover, they respond just as negatively to a safety message (claiming that GM foods are safe) as to a risk message (claiming that GM foods are unsafe). The mechanism underlying these effects is consumers' perceived health risk. A benefit message claiming that GM foods are beneficial (e.g., more nutritious than their conventional counterparts) is a better alternative for strong anti-GM consumers. Finally, the results suggest that persuasive messages do not significantly change pro-GM consumers' evaluations of these foods.

Journal of Public Policy & Marketing
1-17

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
DOI: 10.1177/0743915618818168

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The first paper found that people who are strongly against GMOs actually react negatively to a message about GMO safety. That is, not only are they immune to facts, but facts are counter-productive, increasing their opposition to GMOs.

Evidence for Absolute Moral Opposition to Genetically Modified Food in the United States

Perspectives on Psychological Science
2016, Vol. 11(3) 315–324
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DOI: 10.1177/1745691615621275
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Sydney E. Scott¹, Yoel Inbar², and Paul Rozin¹

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Abstract

Public opposition to genetic modification (GM) technology in the food domain is widespread (Frewer et al., 2013). In a survey of U.S. residents representative of the population on gender, age, and income, 64% opposed GM, and 71% of GM opponents (45% of the entire sample) were “absolutely” opposed—that is, they agreed that GM should be prohibited no matter the risks and benefits. “Absolutist” opponents were more disgust sensitive in general and more disgusted by the consumption of genetically modified food than were non-absolutist opponents or supporters. Furthermore, disgust predicted support for legal restrictions on genetically modified foods, even after controlling for explicit risk–benefit assessments. This research suggests that many opponents are evidence insensitive and will not be influenced by arguments about risks and benefits.

This confirmed the results of another study which found that “many opponents are evidence insensitive and will not be influenced by arguments about risks and benefits”.

What consumers don't know about genetically modified food, and how that affects beliefs

Brandon R. McFadden,^{*1} and Jayson L. Lusk[†]

^{*}Department of Food and Resource Economics, University of Florida, Gainesville, Florida, USA; and [†]Department of Agricultural Economics, Oklahoma State University, Stillwater, Oklahoma, USA

ABSTRACT: In the debates surrounding biotechnology and genetically modified (GM) food, data from consumer polls are often presented as evidence for precaution and labeling. But how much do consumers actually know about the issue? New data collected from a nationwide U.S. survey reveal low levels of knowledge and numerous misperceptions about GM food. Nearly equal numbers of consumers prefer mandatory labeling of foods containing DNA as do those preferring mandatory labeling of GM foods. When given the option, the majority of consumers prefer that decisions about GM food be taken out of their hands and be made by experts. After answering a list of questions testing objective knowledge of GM food, subjective, self-reported knowledge declines somewhat, and beliefs about GM food safety increase slightly. Results suggest that consumers think they know more than they actually do about GM food, and queries about GM facts cause respondents to reassess how much they know. The findings question the usefulness of results from opinion polls as a motivation for creating public policy surrounding GM food.—McFadden, B. R., Lusk, J. L. What consumers don't know about genetically modified food, and how that affects beliefs. *FASEB J.* 30, 3091–3096 (2016). www.fasebj.org

KEY WORDS: GM food · labeling · public acceptance · public knowledge

Another study found consumers generally have low levels of knowledge and numerous misperceptions about GM food. Many consumers want GM food labelled. But just as many told researchers they want mandatory labels on foods containing DNA.

-

Of course, all food contains DNA.

RESEARCH PAPER

Twenty-one years of using insect resistant (GM) maize in Spain and Portugal: farm-level economic and environmental contributions

Graham Brookes

Agricultural Economist at PG Economics Ltd, UK

ABSTRACT. This study assesses the economic and environmental impacts that have arisen from the adoption and use of genetically modified (GM) insect resistant (IR) maize in Spain and Portugal in the 21 years since first planted in Spain in 1998. A total of 1.65 million hectares have been planted to maize containing these traits since 1998, with farmers benefiting from an increase in income of €285.4 million. For every extra €1 spent on this seed relative to conventional seed, farmers have gained an additional €4.95 in extra income. These income gains have mostly arisen from higher yields (+11.5% across the two countries using the technology). The seed technology has reduced insecticide spraying by 678,000 kg of active ingredient (37%) and, as a result, decreased the environmental impact associated with herbicide and insecticide use on these crops (as measured by the indicator, the Environmental Impact Quotient (EIQ)) by 21%. The technology has also facilitated cuts in fuel use, resulting in a reduction in the release of greenhouse gas emissions from the GM IR maize cropping area and contributed to saving scarce water resources.

As a hook for the article, I used a recent study by Graham Brookes of PG Economics on the economic and environmental contributions of GMO crops.

-

The study's headline findings include that farmers enjoyed increased incomes thanks to higher yield, reduced insecticide spraying by 37%, and reduced the impact of herbicides and pesticides on the environment by 21%.

-

It has enabled farmers to use less fuel, which reduced their greenhouse gas emissions and it contributed to saving scarce water resources. Every which way you look at it, it's a win.

SCIENTIFIC REPORTS



Correction: Author Correction

OPEN

Impact of genetically engineered maize on agronomic, environmental and toxicological traits: a meta-analysis of 21 years of field data

Received: 16 June 2017
Accepted: 2 February 2018
Published online: 15 February 2018

Elisa Pellegrino¹, Stefano Bedini², Marco Nuti^{1,2} & Laura Ercoli¹

Despite the extensive cultivation of genetically engineered (GE) maize and considerable number of scientific reports on its agro-environmental impact, the risks and benefits of GE maize are still being debated and concerns about safety remain. This meta-analysis aimed at increasing knowledge on agronomic, environmental and toxicological traits of GE maize by analyzing the peer-reviewed literature (from 1996 to 2016) on yield, grain quality, non-target organisms (NTOs), target organisms (TOs) and soil biomass decomposition. Results provided strong evidence that GE maize performed better than its near isogenic line: grain yield was 5.6 to 24.5% higher with lower concentrations of mycotoxins (−28.8%), fumonisin (−30.6%) and thricotecens (−36.5%). The NTOs analyzed were not affected by GE maize, except for Braconidae, represented by a parasitoid of European corn borer, the target of Lepidoptera active Bt maize. Biogeochemical cycle parameters such as lignin content in stalks and leaves did not vary, whereas biomass decomposition was higher in GE maize. The results support the cultivation of GE maize, mainly due to enhanced grain quality and reduction of human exposure to mycotoxins. Furthermore, the reduction of the parasitoid of the target and the lack of consistent effects on other NTOs are confirmed.

It's never good to rely on only a single study, of course, so I validated the argument by referring to a 2018 review of 6,000 papers which found increased yields and lower risk to human health...

REVIEW ARTICLE

An overview of the last 10 years of genetically engineered crop safety research

Alessandro Nicolìa^{1*}, Alberto Manzo², Fabio Veronesi¹, and Daniele Rosellini¹

¹Department of Applied Biology, Faculty of Agriculture, University of Perugia, Perugia, Italy and ²Ministry of Agriculture, Food and Forestry Policies (MiPAAF), Rome, Italy

Abstract

The technology to produce genetically engineered (GE) plants is celebrating its 30th anniversary and one of the major achievements has been the development of GE crops. The safety of GE crops is crucial for their adoption and has been the object of intense research work often ignored in the public debate. We have reviewed the scientific literature on GE crop safety during the last 10 years, built a classified and manageable list of scientific papers, and analyzed the distribution and composition of the published literature. We selected original research papers, reviews, relevant opinions and reports addressing all the major issues that emerged in the debate on GE crops, trying to catch the scientific consensus that has matured since GE plants became widely cultivated worldwide. The scientific research conducted so far has not detected any significant hazards directly connected with the use of GE crops; however, the debate is still intense. An improvement in the efficacy of scientific communication could have a significant impact on the future of agricultural GE. Our collection of scientific records is available to researchers, communicators and teachers at all levels to help create an informed, balanced public perception on the important issue of GE use in agriculture.

Keywords

Biodiversity, environment, feed, food, gene flow, -omics, substantial equivalence, traceability

History

Received 17 December 2012
Revised 24 June 2013
Accepted 24 June 2013
Published online 13 September 2013

... and another review of the literature that found no significant hazards connected to genetically engineered crops...



REVIEW ARTICLE

Published GMO studies find no evidence of harm when corrected for multiple comparisons

Alexander Y. Panchin¹ and Alexander I. Tuzhikov^{1,2}

¹Institute for Information Transmission Problems RAS, Moscow, Russian Federation and ²Department of Ophthalmology, School of Medicine, Bascom Palmer Eye Institute, University of Miami Miller Miami, FL, USA

Abstract

A number of widely debated research articles claiming possible technology-related health concerns have influenced the public opinion on genetically modified food safety. We performed a statistical reanalysis and review of experimental data presented in some of these studies and found that quite often in contradiction with the authors' conclusions the data actually provides weak evidence of harm that cannot be differentiated from chance. In our opinion the problem of statistically unaccounted multiple comparisons has led to some of the most cited anti-genetically modified organism health claims in history. We hope this analysis puts the original results of these studies into proper context.

Keywords

Genetic engineering, genetic modification, GMO, health, safety, statistics, transgenic

History

Received 1 March 2015

Revised 8 November 2015

Accepted 25 November 2015

Published online 11 January 2016

Introduction

The overall negative public perception of the use of genetically modified organisms (GMOs) in food production has caused severe difficulties for the development of GM crops

If multiple hypotheses are tested simultaneously, the problem of multiple comparisons arises. If one tests several independent null hypotheses and leaves α at 0.05 for each comparison, the probability of obtaining at least one "statistically significant" result is $>5\%$ even if all null hypotheses

...and a 2015 review that examined only studies that *did* claim there was the potential of harm to humans, but found that these studies included results that were indistinguishable from chance, and they actually weakened the evidence for harm.

Africa (14)

South Africa	Academy of Science of South Africa	GMOs for African Agriculture: Challenges and Opportunities (2010)
Continent	Academies of Sciences from Cameroon, Ethiopia, Ghana, Kenya, Mozambique, Nigeria, Senegal, South Africa, Sudan, Tanzania, Uganda and Zimbabwe.	Declaration of the 9th Annual Meeting of African Science Academies (2013)
Continent	International Society of African Scientists	Potential Benefits of Biotechnology to Agriculture in Africa and the Caribbean (2001)
South Africa	AfricaBio	Food and Feed Safety Assessment (2017)

Asia (5)

China	Chinese Academy of Sciences	Transgenic Plants and World Agriculture (2000)
India	Indian National Academy of Sciences	Transgenic Plants and World Agriculture (2000)
India	Indian National Academy of Agricultural Sciences	GM Crops for Nutritional Security (2014)
Japan	Agricultural Academy of Japan	Agricultural Academy of Japan proposes conduct of confined field trial of GM crops (2017)
Philippines	National Academy of Science and Technology (NAST)	Filipino Scientists in Support of Biotechnology (2001)

Europe (89)

Czech Republic	Biology Centre of the Academy of Sciences of the Czech Republic	White Book: Genetically Modified Crops (2009)
France	French Academy of Agriculture	Conclusions du groupe de réflexion et de proposition de l'Académie d'Agriculture de France sur les Plantes Génétiquement Modifiées (2012)
France	French Academy of Agriculture, French Academy of Science, National Academy of technologies of Frances	French Academies call for freedom of research on Genetically Modified Plants (GMPs) to be restored (2014)
France	French Academy of Sciences	Genetically Modified Plants (2002)
Germany	National Academy of Sciences (Leopoldina) German Academy of Science and Engineering (acatech) Berlin-Brandenburg Academy of Sciences and Humanities	In support of a new policy on Green Genetic Engineering (2009)

For good measure, I threw in a link to a list of public statements from 284 of the leading technical and scientific institutions around the world, recognising the benefits and safety of GM crops for consumers, the environment and farmers.

Agroecology

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I pointed out that all this flatly contradicts the claims of BioWatch, a leading anti-GMO lobby group in South Africa, which claims that GMOs are “scientifically, economically and socially” controversial, and that there is “increasing evidence of GMOs creating environmental and health risks and having dubious economic advantages”.

Opinionista • Ivo Vegter • 11 June 2019

Strong GMO opponents unmoved by facts

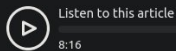
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Ivo Vegter

Follow Save More

Genetic engineering is revolutionising crop farming, bringing benefits to farmers, the environment and consumer health. Its opponents, however, are not swayed by any of the science. On the contrary, it makes them believe the exact opposite of the truth.



Ivo Vegter is a columnist and the author of *Extreme Environment*, a book on environmental exaggeration and how it harms emerging economies. He writes on this and many other matters, from the perspective of individual liberty and free markets.

A recent study of 21 years of GM (genetically modified) maize production in Spain and Portugal found that genetically engineered crops outperformed conventional crops in every respect. But don't tell people who are irrationally afraid of GMOs (genetically modified organisms). They don't want to hear it, and if they do, it'll just make them more stubbornly opposed. There are none so blind as those who will not see.

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Let's have a peek at the study findings. And while we're at it, we'll compare it to some of the things a leading South African anti-GMO lobby group, *Biowatch*, says.

Biowatch says GMOs are "scientifically, economically and socially" controversial, and that there is "increasing evidence of GMOs creating environmental and health risks and having dubious economic advantages".

All in all, I thought it was a pretty decently-supported column.

Vegter – a prisoner of genetic industry’s ‘facts’

By Vanessa Black • 18 June 2019



Ivo Vegter accuses Biowatch and like-minded bodies of ignoring the science on GMOs, and then goes on to select the “evidence” placed before us by scientists. But he mainly cites scientists who are paid for and backed by powerful GMO interests.



Archive Photo: South Africans protest against Monsanto and Genetically Modified Organisms in Cape Town, South Africa, 21 May 2016. E...



But Biowatch didn't.

-

Vanessa Black, the Advocacy, Research and Policy Co-ordinator for Biowatch, said I cherry-picked the “evidence”, and “mainly cited scientists who are paid for and backed by powerful GMO interests”.

-

She pointed out that Graham Brookes works for PG Economics, whose clients include agri-technology companies, agrochemical manufacturers, seed companies and plant breeders.

-

Nowhere in the article does she tell us why he's wrong, or even *that* he's wrong. All that mattered was that he had clients among the big bad corporations.

RIGHT OF REPLY

Vegter – a prisoner of genetic industry’s ‘facts’

By Vanessa Black • 18 June 2019



Ivo Vegter accuses Biowatch and like-minded bodies of ignoring the science on GMOs, and then goes on to select the “evidence” placed before us by scientists. But he mainly cites scientists who are paid for and backed by powerful GMO interests.



Archive Photo: South Africans protest against Monsanto and Genetically Modified Organisms in Cape Town, South Africa, 21 May 2016, E...



Black did not even acknowledge the numerous other papers I cited

-

She said I smeared Biowatch by accusing them of ignoring the science on GMOs, even though in her article she literally ignored all of the science I had presented.

Opinionista • Ivo Vegter • 25 June 2019

Genetically modified organisms: Let science prevail, not rhetoric

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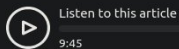
75 Reactions



Ivo Vegter

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Listen to this article

9:45

In my recent article, *Strong GMO opponents unmoved by facts*, I cited Biowatch South Africa as an example of anti-GMO activism. Vanessa Black, its advocacy, research and policy coordinator, felt compelled to pen a **vehement rebuttal**. Of course, it cannot go unanswered, or people might get the wrong impression about who is right.

I am, she says, “a prisoner of [the] genetic industry’s ‘facts’”. How exactly my freedom to reach conclusions based on the published academic literature renders me “a prisoner”, escapes me. So does the reason the word “facts” needs quotation marks, as if they are not really facts at all.

According to Black, I “mainly [cite] scientists who are paid for and backed by powerful GMO interests”. In

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My rebuttal to her attack was one of the more satisfying pieces I've written.

-

But it didn't go down well with the social media crowd.

-

In a series of tweets another anti-GMO activist went after me. I was accused of being a lapdog for the corporate interests of my capitalist masters.

-

They tagged Daily Maverick, trying to get me fired. They called my writing a crime against humanity. I kid you not.

Opinionista • Ivo Vegter • 25 June 2019

Genetically modified organisms: Let science prevail, not rhetoric



Ivo Vegter

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Ivo Vegter is a columnist and the author of *Extreme Environment*, a book on environmental exaggeration and how it harms emerging economies. He writes on this and many other matters, from the perspective of individual liberty and free markets.

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75 Reactions

In a recent article, I argued that opponents of genetically modified organisms are not swayed by science. It prompted a vehement rebuttal from the organisation I named as an example. Happily, it is a weak response and easy to refute.



Listen to this article

9:45

In my recent article, *Strong GMO opponents unmoved by facts*, I cited Biowatch South Africa as an example of anti-GMO activism. Vanessa Black, its advocacy, research and policy coordinator, felt compelled to pen a **vehement rebuttal**. Of course, it cannot go unanswered, or people might get the wrong impression about who is right.

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According to Black, I “mainly [cite] scientists who are paid for and backed by powerful GMO interests”. In

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The spark grew into a flame, and a group of journalists who disagreed with me about other environmental issues or the virtues of capitalism piled on, wondering why Daily Maverick was still publishing me.

—

“Deplatforming”: a form of political activism or prior restraint by an individual, group, or organisation with the goal of shutting down controversial speakers or speech, or denying them access to a venue in which to express their opinion.

Tactics used ... [include] efforts to have an individual fired or blacklisted.

When confronted, they denied that they were trying to deplatform me, but were just idly speculating why I was given a platform. As if that wasn't the same thing.

-

They kept badgering Daily Maverick, saying it has a duty to be truthful and socially responsible, which, presumably, they didn't think I was.

Right of reply: A democratic eco-socialist calls out self-proclaimed libertarian Ivo Vegter

By <name redacted> • 30 July 2019



Which journalists are doing the greater disservice to society, in terms of reporting on the climate or critiquing the economic roots of climate collapse: those raising the alarm or those downplaying the seriousness, asks the writer. (Illustration: AdobeStock) ~ Less

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By manufacturing a false controversy that there's a lobby to shut him down, Daily Maverick columnist Ivo Vegter may have scored an own goal: he draws attention to the shortfalls of his analysis and the dangers of amplifying voices that prop up the status quo that is driving climate collapse.

Then one of them wrote an article, saying that by calling them out *I* was manufacturing “false controversy”, and was, I quote, “drawing attention to the dangers of allowing his voice to continue to be heard”

-

She wrote: “Vegter argues that my effort to deplatform him is an attempt to shift the ‘Overton window’ – the range of views that we allow or see as acceptable in the public discourse. He’s right. I suppose I am trying to shift the window. Not by censoring critical voices, though, but by demanding that all voices be more critical.”

-

Right of reply: A democratic eco-socialist calls out self-proclaimed libertarian Ivo Vegter

By <name redacted> • 30 July 2019



Which journalists are doing the greater disservice to society, in terms of reporting on the climate or critiquing the economic roots of climate collapse: those raising the alarm or those downplaying the seriousness, asks the writer. (Illustration: AdobeStock) ~ Less

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<name redacted> t

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By manufacturing a false controversy that there's a lobby to shut him down, Daily Maverick columnist Ivo Vegter may have scored an own goal: he draws attention to the shortfalls of his analysis and the dangers of amplifying voices that prop up the status quo that is driving climate collapse.

So it's okay if Daily Maverick continues to publish me, but only if I write what she deems to be acceptable in the public discourse.

-

And this was all because of my "contrarian pro-capitalist view".

-

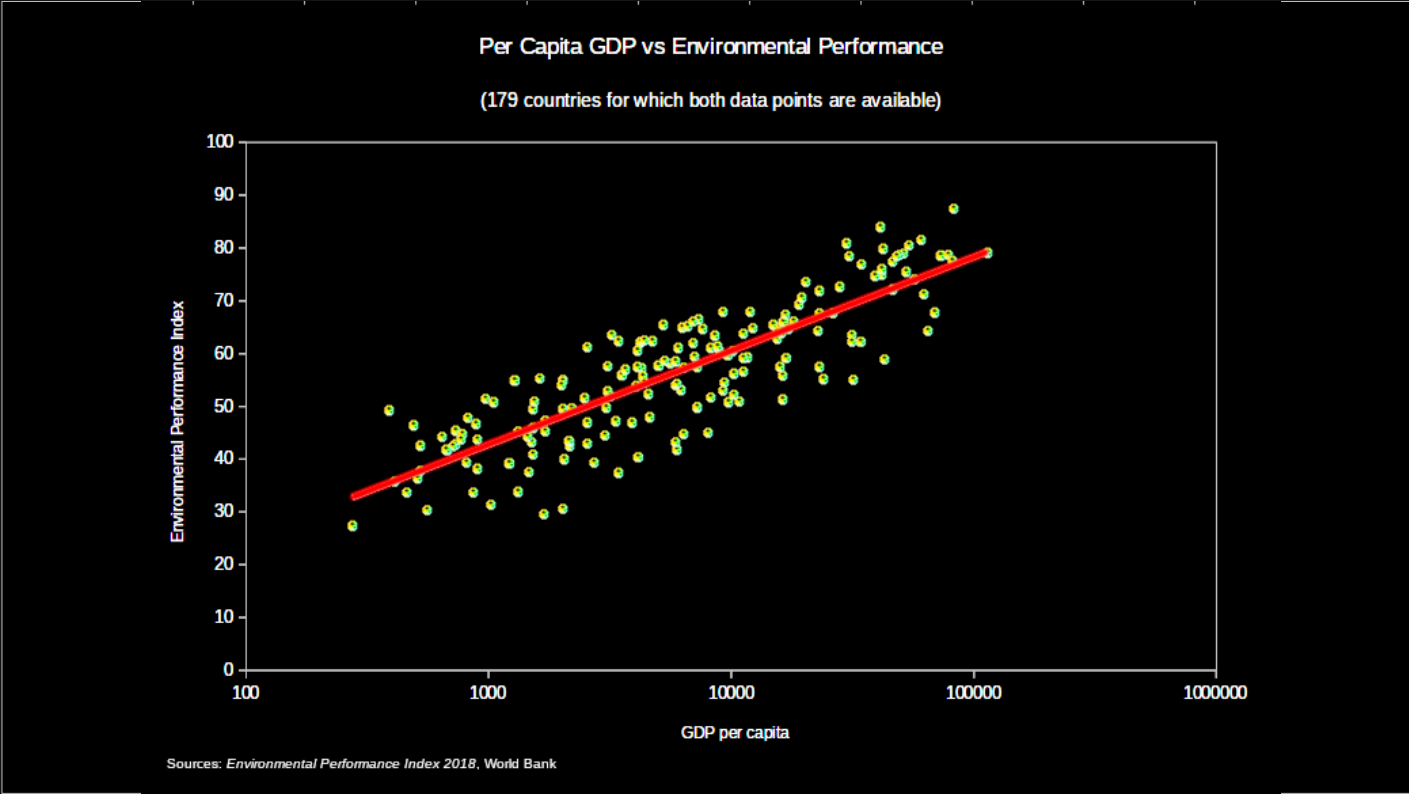
And there we get to the nub of the matter. She calls herself an eco-socialist and wrote that we need to tear down the capitalist economic system to save the world. Anyone who does not agree, should not get published, it seems.



Capitalism vs Socialism

Nevermind that socialism has brought the world nothing but poverty, misery and starvation, while capitalism has raised living standards for an ever-growing majority to levels never seen in human history.

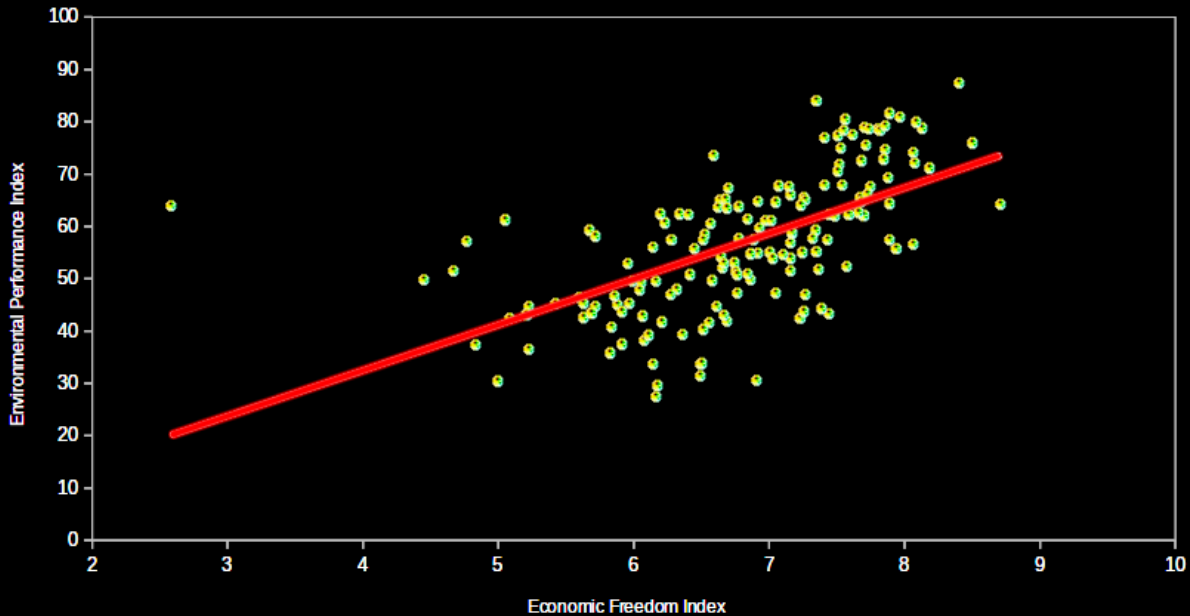
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Nevermind that there is a correlation between a country's environmental performance, and its prosperity.

Economic Freedom vs Environmental Performance

(159 countries for which both data points are available)

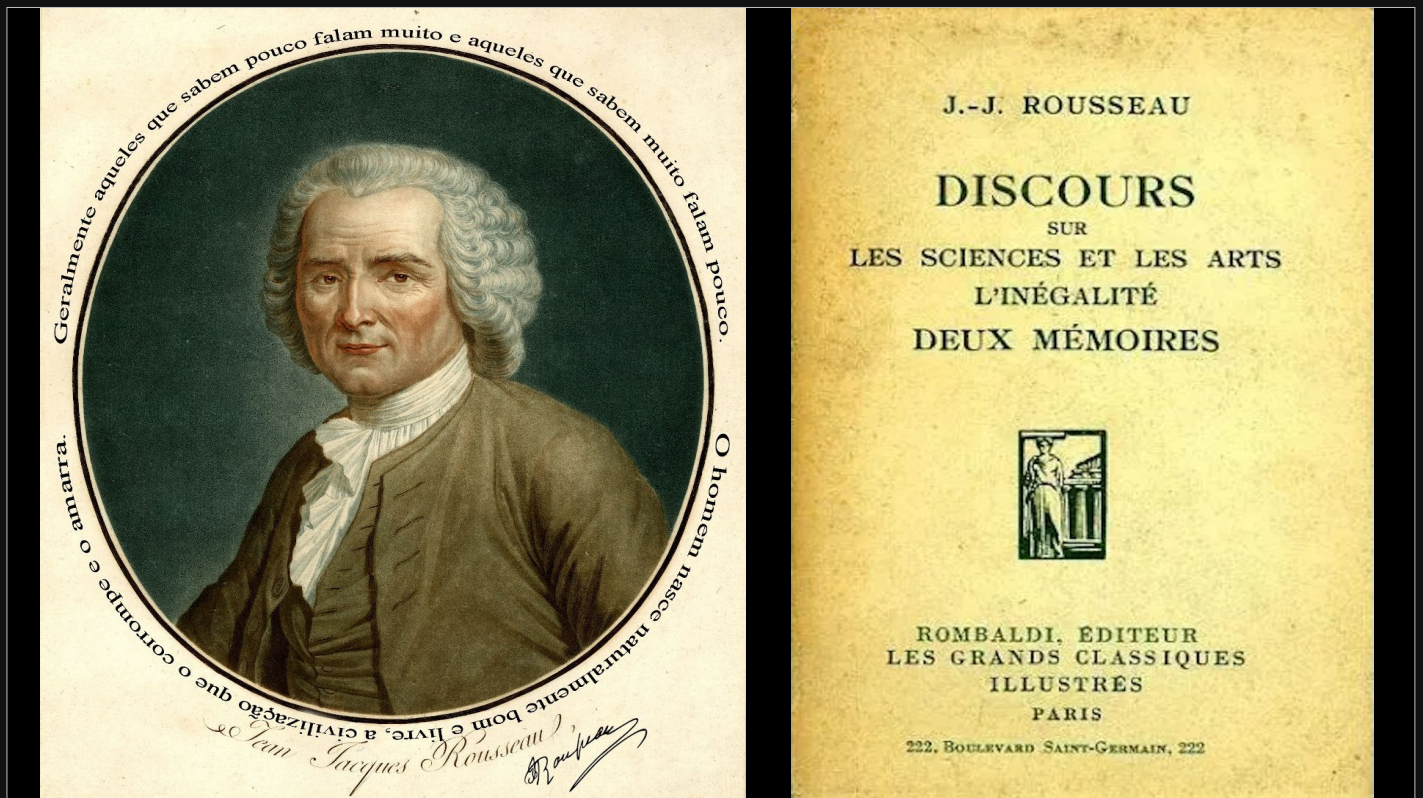


Sources: *Environmental Performance Index 2018*, Fraser Institute *Economic Freedom of the World: 2019 Annual Report*

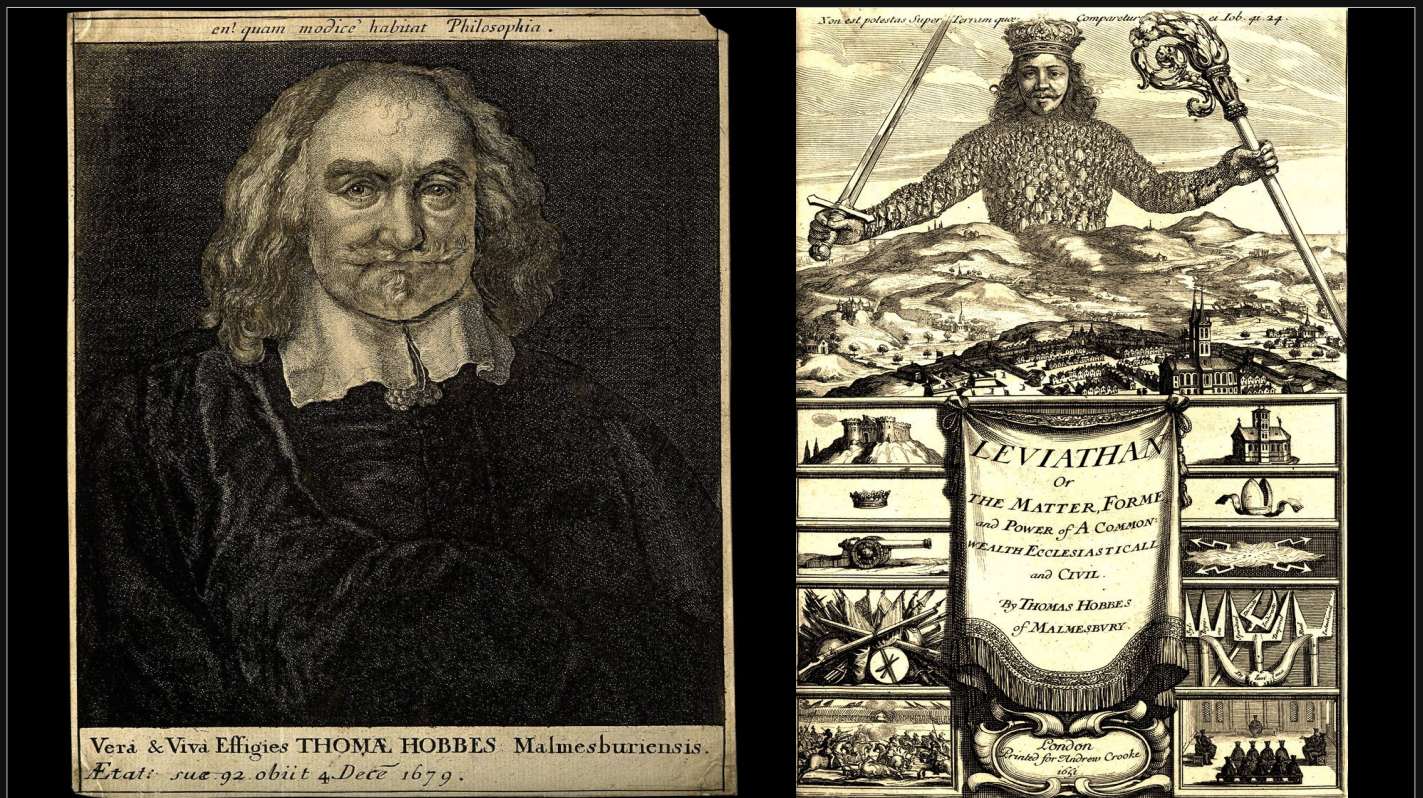
There's an equally strong correlation between a country's environmental performance and its degree of economic freedom.

-

The richer and more free people get, the more they care about the environment, which is the exact opposite of what the eco-socialists argue.

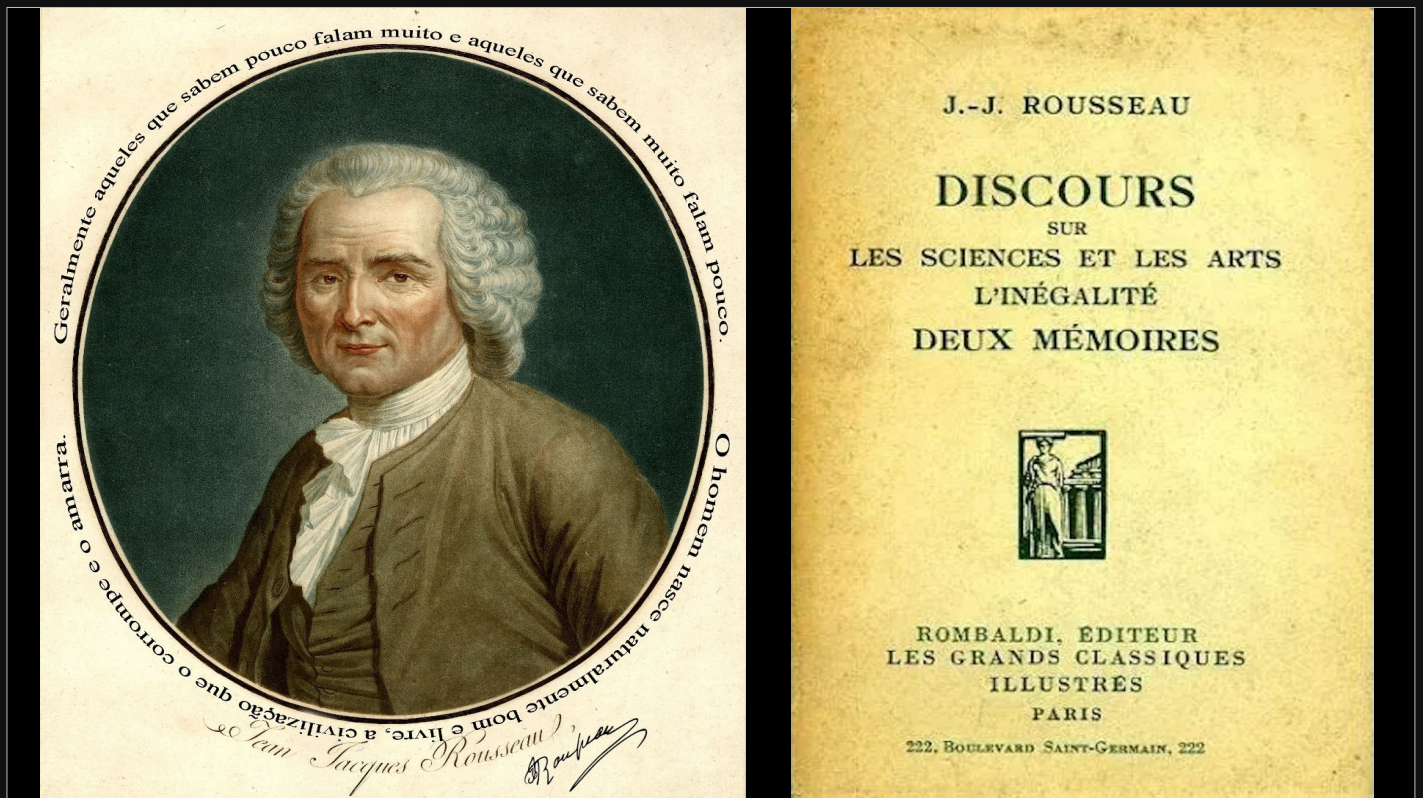


This myth has its origins long ago, but is epitomised in the works of writers like Jean-Jacques Rousseau in the 18th century, who held that humans are good in a state of nature, but that modern society's institutions corrupt them.



This idyllic vision of a past in which the “noble savage” was at one with nature and at peace with humanity stood in stark contrast to the state of nature which Thomas Hobbes envisaged a century earlier, in which all were at war with all, there was no industry, art, or civilisation, and the life of man was solitary, poor, nasty, brutish and short.

-
Hobbes was right, and Rousseau was wrong, of course.



Rousseau's work draws a clear link between the modern myth of an idyllic pastoral world at one with nature and anti-capitalism. Rousseau held that private property was the source of inequality and strife between people.

-

• diversity • soil • water • seed • advocacy •



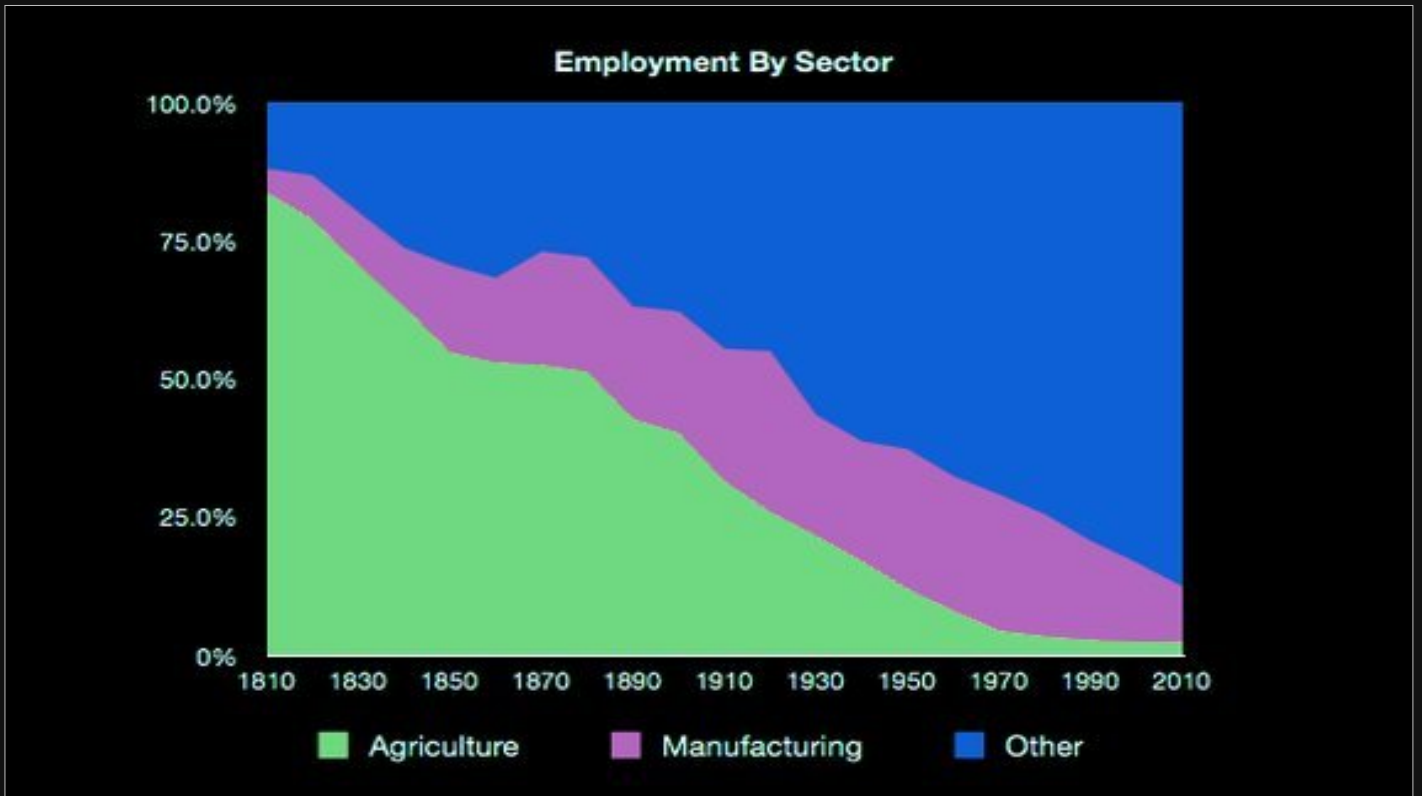
AGROECOLOGY IS BEST PRACTICE

BIOWATCH SOUTH AFRICA'S WORK
WITH SMALLHOLDER FARMERS

This idea resonates today in campaigns to promote subsistence farming as the solution to poverty, food insecurity and environmental degradation, as Biowatch does.

-

They think it's a progressive idea to return people to an era when most people were peasant farmers, scratching out a meager subsistence from a small plot, or worse, a commons, entirely at the mercy of capricious nature.



In reality, private property and trade are the source of prosperity, cooperation for mutual benefit, the most peaceful era in the history of humanity, and the liberation of the vast majority of people from the backbreaking labour of producing their own food.



"Certain inventions in machinery were introduced into the staple manufacturers of the north, which, greatly reducing the numbers of hands necessary to be employed, threw thousands out of work, and left them without legitimate means of sustaining life..."

**WE PETITION NO MORE.
THAT WON'T DO - FIGHTING MUST.**

LUDDITES

Being a Social Uprising in the Midlands of England between the Years of 1811 and 1813

**TO PUT DOWN
ALL MACHINERY HURTFUL TO
COMMONALITY!**

"Misery generates hate; these sufferers hated the machines which they believed took their bread from them; they hated the buildings which contained those machines; they hated the manufacturers who owned those buildings." - Charlotte Brontë, *Shirley*

CELEBRATE PEOPLE'S HISTORY



*Signed by the General of the Army of Redressers
Ned Ludd, Clerk - Redressers for ever Amen.*

Art: Shaun Shifer; more posters: justmud.org; printed by Stumpgroundprinters.com; June 2014



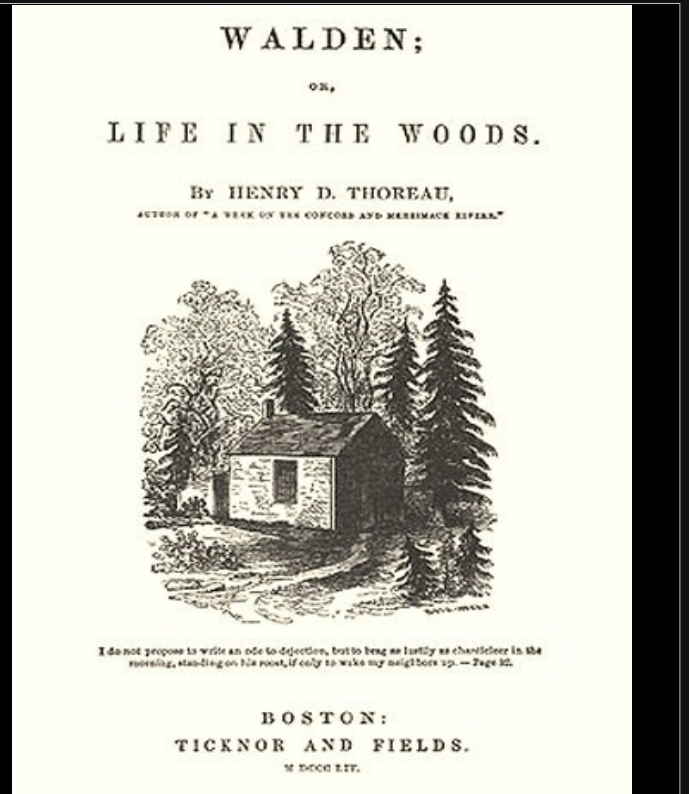
You see this reaction against modernity and capitalism in the Luddite movement.



A BON FIRE for the Poor or the Shame of ALBION Exposed
Pub. Apr. 1. 1791 by S. K. Lucas N^o. 3. Pasadilly.

126. 1791.

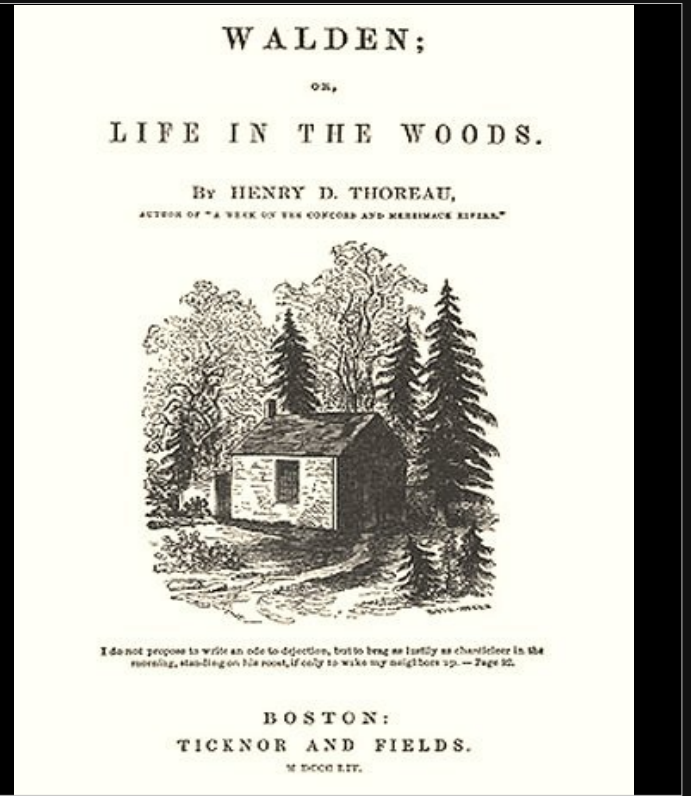
You see it in the “dark, Satanic mills” of William Blake.



Henry David Thoreau picked up the “back to nature” theme in On Walden Pond, in which he extolled the virtues of simple living and self-sufficiency.

-
Out in the log cabin he built, all of 30 minutes walk from the nearest town, he claimed to rely only on his wits and hands to provide the four necessities of life: food, shelter, clothing and fuel.

-
He rejected all else as luxuries, writing: “Most of the luxuries, and many of the so-called comforts of life, are not only not indispensable, but positive hindrances to the elevation of mankind.”

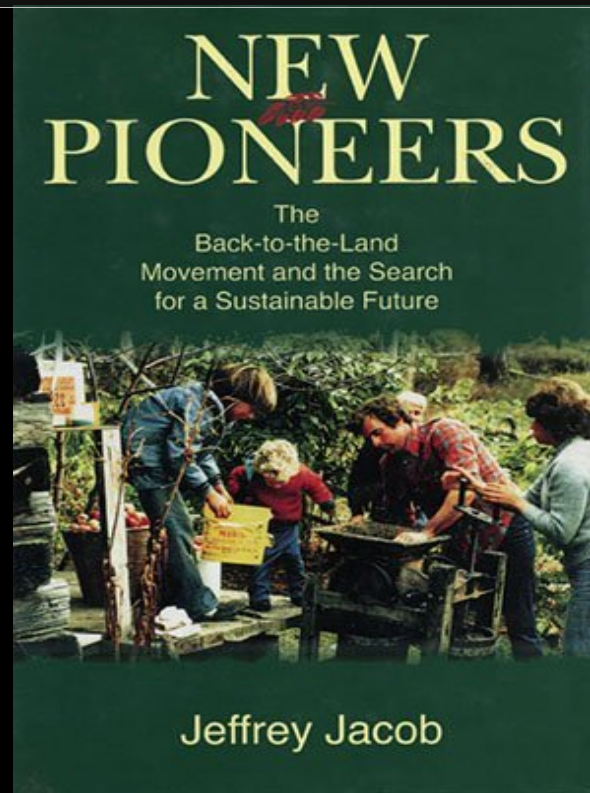
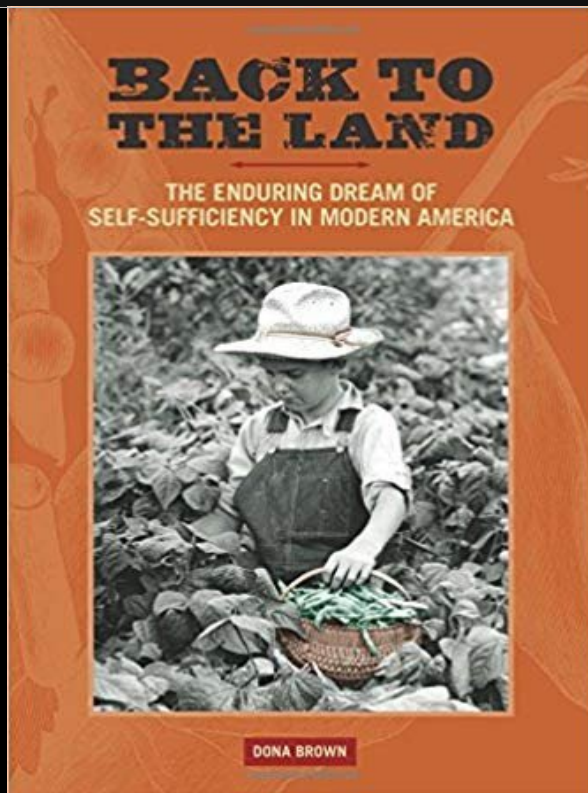


Critics described his book as quaint, eccentric, selfish, strange, impractical, manor born and misanthropic.

-

These descriptions remain true of many of today's wealthy elite that withdraw to rustic cottages in the countryside to "get back to nature", and then advocate that the poor do so too.

-

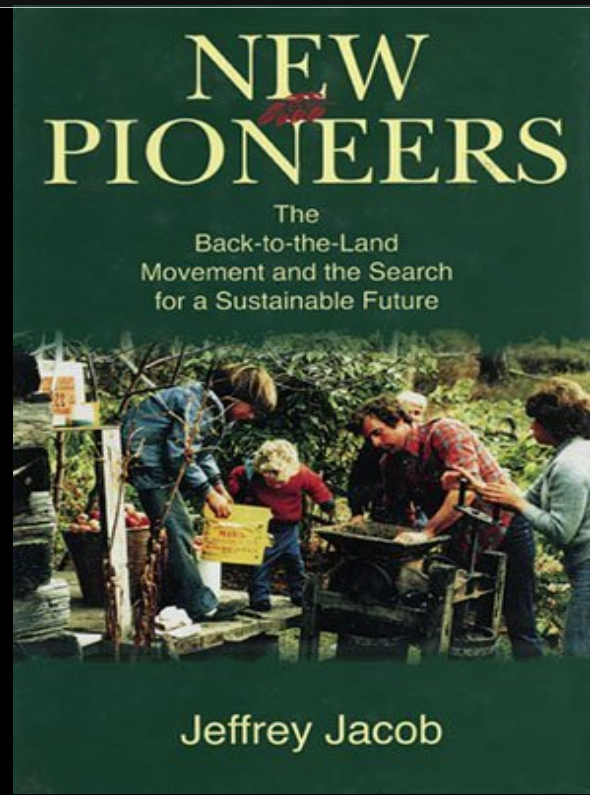
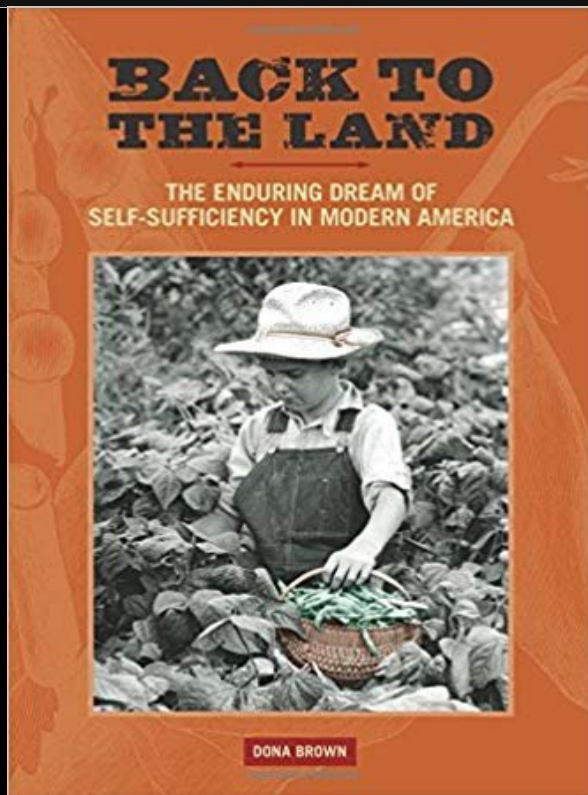


The back to the land movement is very romantic and appealing to those who are far removed from its reality and have grown used to a world of plenty.

-

If you're wealthy, it can even be a pleasant and fulfilling way of life. As a model for society, however, it is socialist and regressive.

-



The myth of an idyllic pastoral life leads to the belief that everything produced by modern industry, science and technology, is likely to be bad for you, despite the fact that objectively speaking, people live longer, healthier and happier lives than ever before.



Nowhere is this belief more visible than in the idea that all things natural are good, and all things artificial are bad.

-

To make products appealing, marketers routinely declare them to be “all natural”, with no artificial anything added.

SCARY SEVEN: INGREDIENT
PRESERVATIVES



REPORTED
SIDE EFFECTS
INCLUDE

HEADACHES
TINITUS LIVER &
KIDNEY
CANCER DAMAGE
SKIN RASHES
VOMITING NAUSEA
INFERTILITY
ALLERGIC REACTIONS



PRESERVATIVES
USED TO PROLONG PRODUCT SHELF LIFE

ALWAYS
READ *the* **LABEL**

**PRESERVATIVES
FOUND TO CAUSE
THE MOST
HARM ARE**



Propyl
Gallate
VEGETABLE
OIL



TBHQ
FROZEN FISH
& SOME
CHOCOLATES



Sodium Benzoate
SODA/POP



BHA/BHT
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Take preservatives, for example. They generally improve food safety, especially for consumers who do not have access to regular supplies of fresh food or lack reliable in-home refrigeration. They reduce spoilage, prevent food-borne infections, and maintain nutritional quality over longer periods. They also make a big dent in food waste.

-
Artificial preservatives are almost universally condemned, mostly based on dubious and unsubstantiated anecdotal reports of “side-effects”.

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Volume 95 Issue 31 | pp. 20-22

Issue Date: July 31, 2017 | Web Date: July 25, 2017

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The long road to all-natural preservatives

Consumers want clean labels, but ensuring food safety and shelf life without synthetics is a challenge

By Melody M. Bomgardner

[+]Enlarge



This has led to a widespread movement to replace artificial preservatives with “natural” alternatives, and create so-called clean labels.

“Clean label” tricks

- ✿ Nitrite/nitrate ↔ celery powder
- ✿ Acetic acid ↔ vinegar
- ✿ Citric acid ↔ lemon extract

Much of that movement is entirely bogus, replacing chemical-sounding names such as nitrites and nitrates with “celery powder”, acetic acid with “vinegar”, and citric acid with “lemon extract”.



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- ✿ Salt
- ✿ Clove oil
- ✿ Vinegar
- ✿ Forsythia
- ✿ Tea polyphenols
- ✿ Allicin
- ✿ Perilla leaves
- ✿ Protamine
- ✿ Propolis
- ✿ Chitosan

Yet there is no inherent reason why natural ingredients should be any better than those that are synthetically produced.



- ✿ Rosemary
- ✿ Garlic
- ✿ Ginger
- ✿ Sugar
- ✿ Cinnamon
- ✿ Salt
- ✿ Clove oil
- ✿ Vinegar
- ✿ Forsythia
- ✿ Tea polyphenols
- ✿ Allicin
- ✿ Perilla leaves
- ✿ Protamine
- ✿ Propolis
- ✿ Chitosan

Vinegar and salt are both more toxic in animal studies than the unfairly-maligned herbicide glyphosate, for example.

-

In high enough doses, both are terribly toxic to animals and humans.



“We calculate that 99.99% (by weight) of the pesticides in diet are chemicals that plants produce to defend themselves.”

“Natural and synthetic chemicals are equally likely to be positive in animal cancer tests.”

– Dr. Bruce Ames, professor of Biochemistry and Molecular Biology Emeritus at the University of California, Berkeley, and a senior scientist at Children's Hospital Oakland Research Institute (CHORI)

The veteran biochemist Bruce Ames invented a cheap and simple test for carcinogenicity.

-

He says 99.99% of the pesticides we ingest are not synthetic, but come from natural sources. Yet natural chemicals are rarely tested, but when they are, they are just as likely as synthetic chemicals to turn up positive in animal cancer tests.

-

Just as with artificial additives, the dose makes the poison.



Industrial food additives are much better tested than natural alternatives, so we know more about what the safe dose is, and how effective they are at preventing oxidation and microbial growth.

-

Natural products are more likely to be unsafe, because they are largely untested. They may be filled with unwanted ingredients, chemicals of uncertain dosages, or cause undesirable changes in texture or flavour.

-

The word “natural” on product packaging should not be a reassurance that it is better, safer or healthier than any alternative product. It might even be cause for suspecting the opposite.

COUNTERTHINK



But that's not what the anti-capitalist ideologues would say.

- They think Big Food is just motivated by greed, and couldn't care about our health.

- As though dead consumers make profitable customers.

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By Vani Hari, New York Times Best Selling Author and Healthy Food Activist

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And as if the anti-additive brigade, like The Food Babe, aren't in it for the money, too.



10 REASONS WHY ORGANIC FOOD IS BETTER FOR YOU & THE PLANET

Posted under [Food & Health](#) by [Jeffrey Harrison](#) on October 20, 2016

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Finally, let's glance quickly at the organic food movement, where we'll discover a fourth reason why people believe crazy things about food.

-

Many people believe that organic food is (a) healthier, (b) tastes better, and (c) is better for the environment than conventionally-produced produce.

-

But none of this is true.

Nutritional quality of organic foods: a systematic review¹⁻⁴

Alan D Dangour, Sakhi K Dodhia, Arabella Hayter, Elizabeth Allen, Karen Lock, and Ricardo Uauy

ABSTRACT

Background: Despite growing consumer demand for organically produced foods, information based on a systematic review of their nutritional quality is lacking.

Objective: We sought to quantitatively assess the differences in reported nutrient content between organically and conventionally produced foodstuffs.

Design: We systematically searched PubMed, Web of Science, and CAB Abstracts for a period of 50 y from 1 January 1958 to 29 February 2008, contacted subject experts, and hand-searched bib-

All natural products vary in their composition of nutrients and other nutritionally relevant substances (10). Different cultivars of the same crop may differ in nutrient composition, which can also vary depending on fertilizer and pesticide regimen, growing conditions, season, and other factors. The nutrient composition of livestock products can similarly be affected by factors such as the age and breed of the animal, feeding regimen, and season. This inherent variability in nutrient content may be further affected during the storage, transportation, and preparation of the foodstuffs before they reach the plate of the consumer. (See Sup-

Conclusions: On the basis of a systematic review of studies of satisfactory quality, there is no evidence of a difference in nutrient quality between organically and conventionally produced foodstuffs.

analysis that included only satisfactory-quality studies, organically produced crops had a significantly higher content of nitrogen, and organically produced crops had a significantly higher content of phosphorus and higher titratable acidity. No evidence of a difference was detected for the remaining 8 of 11 crop nutrient categories analyzed. Analysis of the more limited database on livestock products found no evidence of a difference in nutrient content between organically and conventionally produced livestock products.

Conclusions: On the basis of a systematic review of studies of satisfactory quality, there is no evidence of a difference in nutrient quality between organically and conventionally produced foodstuffs. The small differences in nutrient content detected are biologically plausible and mostly relate to differences in production methods. *Am J Clin Nutr* 2009;90:680-5.

Notwithstanding the current uncertainty in the available evidence on the nutrient composition of foods produced under different agricultural regimens, consumers appear willing to pay a higher price for organic foods based on their perceived health and nutrition benefits (11, 12). Establishing the strength of existing evidence relating to the nutrient content of organic food will enable the development of evidence-based statements on content and potential nutrition-related public health gains or risks resulting from its consumption, which will allow consumers to make informed choices.

We present the results of a systematic review of studies that report the chemical analysis of foodstuffs produced under organic or conventional methods. The outcome was restricted to the nutrient and nutritionally relevant content of foodstuffs. We did not address differences in contaminant contents (eg, herbicide,



There are three benchmark studies reviewing the literature on how healthy organic food is versus conventionally-grown food. They are the most widely-cited papers on the subject.

The first of these found that there was no difference.

Are Organic Foods Safer or Healthier Than Conventional Alternatives?

A Systematic Review

Crystal Smith-Spangler, MD, MS; Margaret L. Brandeau, PhD; Grace E. Hunter, BA; J. Clay Bavinger, BA; Maren Pearson, BS; Paul J. Eschbach; Vandana Sundaram, MPH; Hau Liu, MD, MS, MBA, MPH; Patricia Schirmer, MD; Christopher Stave, MLS; Ingram Olkin, PhD; and Dena M. Bravata, MD, MS

Background: The health benefits of organic foods are unclear.

Purpose: To review evidence comparing the health effects of organic and conventional foods.

Conclusion: The published literature lacks strong evidence that organic foods are significantly more nutritious than conventional foods.

Data Extraction: 2 independent investigators extracted data on methods, health outcomes, and nutrient and contaminant levels.

Data Synthesis: 17 studies in humans and 223 studies of nutrient and contaminant levels in foods met inclusion criteria. Only 3 of the human studies examined clinical outcomes, finding no significant differences between populations by food type for allergic outcomes (eczema, wheeze, atopic sensitization) or symptomatic *Campylobacter* infection. Two studies reported significantly lower urinary pesticide levels among children consuming organic versus conventional diets, but studies of biomarker and nutrient levels in serum, urine, breast milk, and semen in adults did not identify clinically meaningful differences. All estimates of differences in nutrient and contaminant levels in foods were highly heterogeneous except for

the estimate for phosphorus; phosphorus levels were significantly higher than in conventional produce, although this difference is not clinically significant. The risk for contamination with detectable pesticide residues was lower among organic than conventional produce

isolating bacteria resistant to 3 or more antibiotics was higher in conventional than in organic chicken and pork (risk difference, 33% [CI, 21% to 45%]).

Limitation: Studies were heterogeneous and limited in number, and publication bias may be present.

Conclusion: The published literature lacks strong evidence that organic foods are significantly more nutritious than conventional foods. Consumption of organic foods may reduce exposure to pesticide residues and antibiotic-resistant bacteria.

Primary Funding Source: None.

Ann Intern Med. 2012;157:348-366.
For author affiliations, see end of text.

www.annals.org

The second found no evidence that organic is healthier.



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

Marcin Barański¹, Dominika Średnicka-Tober¹, Nikolaos Volakakis¹, Chris Seal², Roy Sanderson³, Gavin B. Stewart¹, Charles Benbrook⁴, Bruno Biavati⁵, Emilia Markellou⁶, Charilaos Giotis⁷, Joanna Gromadzka-Ostrowska⁸, Ewa Rembiałkowska⁸, Krystyna Skwarło-Sońta⁹, Raija Tahvonen¹⁰, Dagmar Janovská¹¹, Urs Niggli¹², Philippe Nicot¹³ and Carlo Leifert^{1*}

¹*School of Agriculture, Food and Rural Development, Newcastle University, Nafferton Farm, Stocksfield, Northumberland, NE43 7XD, UK*

²*Human Nutrition Research Centre, School of Agriculture, Food and Rural Development, Newcastle University, Agriculture Building, Kings Road, Newcastle upon Tyne NE1 7RU, UK*

³*School of Biology, Newcastle University, Ridley Building, Newcastle upon Tyne NE1 7RU, UK*

⁴*Center for Sustaining Agriculture and Natural Resources, Washington State University, Pullman, WA, USA*

⁵*Department of Agricultural Sciences, School of Agriculture and Veterinary Medicine, University of Bologna, Viale Fanin 42, 40127 Bologna, Italy*

⁶*Department of Pesticide Control and Phytopharmacy, Benaki Phytopathological Institute, GR 14561 Kifissia, Athens, Greece*

⁷*Department of Organic Farming and Food Technology, Technological Educational Institute of Ionian Islands, Iosif Momferatou & Ilia Miniati PC 28100, Argostoli, Cephalonia, Greece*

⁸*Faculty of Human Nutrition and Consumer Sciences, Warsaw University of Life Sciences, Nowoursynowska 159c, 02-776 Warsaw, Poland*

⁹*Department of Animal Physiology, Faculty of Biology, University of Warsaw, Miecznikowa 1, 02-096 Warsaw, Poland*

¹⁰*Biotechnology and Food Research, MTT Agrifood Research Finland, FI-31600 Jokioinen, Finland*

The third, widely cited by the organic lobby, found that organic food contained more anti-oxidants and lower pesticide residues.

“This article is misleading because it refers to antioxidants in plants as if they were a class of essential nutrients, which they are not. This study provides no evidence to change my views that there are no meaningful nutritional differences between conventional produced and organic crops.”

– Prof Tom Sanders, head of the Diabetes and Nutritional Sciences Division at King’s College London’s School of Medicine

“There is no evidence provided that the relatively modest differences in the levels of some of these compounds would have any consequences (good or bad) on public health. The references to ‘antioxidants’ and ‘antioxidant activity’, and various ‘antioxidant’ assays would suggest a poor knowledge of the current understanding within the nutrition community of how fruit and vegetables may maintain and improve health.”

– Prof Richard Mithen, leader of the Food and Health Programme at the Institute of Food Research

“We cannot assess the potential impact of organic foods on public health from this study alone”

– Dr Alison Tedstone, chief nutritionist at Public Health England

But is that result even meaningful? Anti-oxidants are not nutrients, and there is no evidence that modest differences in anti-oxidant consumption have any consequences, good or bad, on health.

-

And since that was the only nutritional difference, except for a slightly lower protein content in organic food, experts said one cannot draw any meaningful conclusions from this study.



Majority of food within limits for pesticide residues

By News Desk on June 28, 2019

Almost 96 percent of food samples were free of pesticide residues or contained traces within legal levels, according to an annual European report.

As for pesticide residues, there is no evidence that the trace amounts on conventionally-grown food are even remotely likely to harm anyone.

-

The vast majority of food tested comes in below strict regulatory limits...

Is food grown using pesticides safe to eat?

EPA is confident that the fruits and vegetables our children are eating are safer than ever. Under FQPA, EPA evaluates new and existing pesticides to ensure that they can be used with a reasonable certainty of no harm to infants and children as well as adults. EPA works continually to review and improve safety standards that apply to pesticide residues on food.

It is important to note though, that just because a pesticide residue is detected on a fruit or vegetable, that does not mean it is unsafe. Very small amounts of pesticides that may remain in or on fruits, vegetables, grains, and other foods decrease considerably as crops are harvested, transported, exposed to light, washed, prepared and cooked. **The presence of a detectible pesticide residue does not mean the residue is at an unsafe level. USDA's Pesticide Data Program (PDP) detects residues at levels far lower than those that are considered health risks.**

...which governments worldwide set well below actual safe consumption levels. In fact, regulators tend to over-protect consumers, at significant cost to producers, which ultimately shows up in higher food prices.



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resident of the British
r head of the British

Food Standards Agency

In the journal Nature, Bruce Krebs, former head of the British Food Standards Agency wrote, “A single cup of coffee contains natural carcinogens equal to at least a year’s worth of carcinogenic synthetic residues in the diet.”

-

So the pesticide residue finding is also a non-result. So, out of three most-commonly cited benchmark studies, none found any significant health benefits to organic food.

Approved for organic use by the Organic Materials Review Institute



Besides, organic farmers are hardly saints in the pesticides department. For example, they often use blue vitriol, or copper sulfate, on their crops. It has fungicidal, herbicidal and fertilising properties.

- According to the European Chemicals Agency, copper sulfate is toxic to humans when ingested orally, can cause serious eye irritation or damage, and is hazardous to aquatic life. It has been found to be harmful to beneficial insects such as bees.

- It contains impurities such as lead, cadmium, arsenic, zinc and nickel. It also bio-accumulates, which can lead to toxic copper levels in soil. It is far more hazardous than glyphosate.



How to Use Bt Pesticide as an Organic Pest Control

Learn how to use Bt pesticide to kill cabbage worms, tomato hornworms and other pests in your organic vegetable garden.

By Barbara Pleasant | April 24, 2013



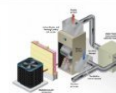
Bt is one of the safest natural pesticides you can use to control caterpillar pests without harming beneficial insects.

Photo Courtesy Safe Brand

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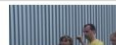
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Biochar: Ancient Method for Long-Term Soil-Building



A Sustainable Career: Landscape Designer Amy Dutt



Another pesticide that is permitted in organic farming is *Bacillus thuringiensis*, commonly known as Bt, infamous for being the target of campaigns against genetically modified (GM) crops that contain specific Bt proteins for protection against pests.

The Bt bacterium produces some 130 different toxins, all of which target different insects. Only one of them is typically engineered into crops to combat a specific pest in GM crops. The organic farmer, however, applies the bacterium in all its toxic glory, which doesn't discriminate in which insects it attacks.



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Replace Paper Towels with a Reusable Cloth Alternative



Biochar: Ancient Method for Long-Term Soil-Building



A Sustainable Career: Landscape Designer Amy Dutt



Not that they'll tell you that. They blatantly lie about not harming beneficial insects.



Use and Status of Rotenone in Organic Growing

Reader Contribution By Lindsay Fernandez-Salvador, OMRI Technical Director | 5/1/2014 12:29:00 PM

Tags: organic farming, pesticides, OMRI, Lindsay Fernandez-Salvador,



Rotenone is a potent botanical pesticide that has become a source of mounting concern because of its toxicity and potential environmental impact. There is significant confusion concerning whether and how this material may be used in USDA-certified organic farming.

Although the [Organic Materials Review Institute \(OMRI\) Generic Materials List](#) identifies rotenone as "Allowed with Restrictions" on organic farms, the material is only legally allowed under certain conditions. Other substances commonly used with rotenone, including piperonyl butoxide, are explicitly prohibited for use in organic agriculture. The National Organic Program (NOP) is currently exploring possible changes to the regulations, potentially limiting or prohibiting the use of rotenone.

Rotenone is commonly derived from the roots of various tropical plants native to Southeast Asia, South America and East Africa. Historically, farmers have used this extract as a foliar spray to control pests on vegetables, berries, tree fruits, nuts, forage crops and sugarcane. It was first registered in the United States in 1947, and through the years, the Environmental Protection Agency (EPA) required a number of studies to further confirm its safety status for use in agriculture. In 2004, the EPA required an inhalation neurotoxicity study to further investigate the possibility of rotenone leading to Parkinson's Disease-like symptoms at high dose exposure in animals. Instead, the companies distributing and selling rotenone products voluntarily cancelled all food use registrations for it, except for piscicide (fish kill) uses. Since then, the EPA only supports registration for piscicidal purposes.



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Rotenone is a pesticide permitted for use on organic farms. It has a non-specific action, so it kills a multitude of insects, both harmful and beneficial.

- In aquatic environments, is a highly effective killer of fish. In fact, in the US, rotenone is registered only for killing fish, not for use on food crops.

- Rotenone has also been associated with Parkinson's Disease in farm workers.



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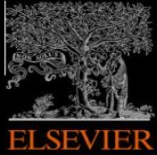
These pesticides are no safer than their conventional counterparts.

-

Proponents of organic farming methods that use substances like copper sulfate, rotenone and Bt are hypocrites.

-

When they tell consumers no pesticides or herbicides were used in their organic food, they're lying.



Life cycle assessment of Swiss farming systems: I. Integrated and organic farming

Thomas Nemecek*, David Dubois, Olivier Huguenin-Elie, Gérard Gaillard

Agroscope Reckenholz-Tänikon Research Station ART, Reckenholzstrasse 191, CH-8046 Zurich, Switzerland

ARTICLE INFO

ABSTRACT

Research highlights

► Organic farming had similar or lower environmental impacts than integrated production. ► Organic farming used less resources, except land. ► Organic farming had higher biodiversity potential and lower ecotoxicity. ► Weak points of organic farming: lower yields and nutrient losses.

In the overall assessment OF was revealed to be either superior or similar to IP in environmental terms. OF has its main strengths in better resource conservation, since the farming system relies mainly on

On environmental benefits, the results are somewhat more mixed. Organic farming often outperforms conventional farming on measures of biodiversity and efficient resource use. However, integrated farm management can be just as good.

The downside, however, is that requires more land, not only because it yields less per hectare in most conditions, but because additional land is required for the production of manure fertiliser.



PHOTO BY IVAN BANDURA ON UNSPLASH

Climate Change / Carbon Sequestration

Sorry—organic farming is actually worse for climate change

The practice cuts greenhouse-gas emissions only if you ignore the inconvenient fact that it requires a lot more land.

The consequence is that organic farming is actually worse than conventional farming in terms of CO2 emissions.



I'm not going to dwell on the taste of organic food.

-

Suffice to say that blind taste tests show mixed results, depending on the food involved, so it is impossible to conclude anything one way or another.

Financial competitiveness of organic agriculture on a global scale

David W. Crowder^{a,1} and John P. Reganold^b

^aDepartment of Entomology, Washington State University, Pullman, WA 99164; and ^bDepartment of Crop and Soil Sciences, Washington State University, Pullman, WA 99164

Edited by M. S. Swaminathan, Centre for Research on Sustainable Agricultural and Rural Development, Madras, India, and approved May 1, 2015 (received for review December 10, 2014)

To promote global food and ecosystem security, several innovative farming systems have been identified that better balance multiple sustainability goals. The most rapidly growing and contentious of these systems is organic agriculture. Whether organic agriculture can continue to expand will likely be determined by whether it is economically competitive with conventional agriculture. Here, we examined a dataset spanning 55 conventional agricultural systems. When organic premiums were not applied, net present values (NPVs) were significantly lower than conventional agriculture (22–24%) than conventional agriculture. When actual premiums were applied, organic agriculture was significantly more profitable (22–35%) and had higher benefit/cost ratios (20–24%) than conventional agriculture. Total costs were not significantly different, but labor costs were significantly higher (7–13%) with organic farming practices. Studies in our meta-analysis accounted for neither environmental costs (negative externalities) nor ecosystem services from good farming practices, which likely favor organic agriculture. With only 1% of the global agricultural land in organic production, our findings suggest that organic agriculture can continue to expand even if premiums decline. Furthermore, with their multiple sustainability benefits, organic farming systems can contribute a larger share in feeding the world.

skeptics contend that organic agriculture has too many shortcomings and poor solutions to agricultural problems (9, 12) and will become less relevant in the future (10). However, recent international agricultural reports recognize organic agriculture as an innovative farming system that balances mul-

When organic premiums were not applied, benefit/cost ratios (−8 to −7%) and net present values (−27 to −23%) of organic agriculture were significantly lower than conventional agriculture. However, when actual premiums were applied, organic agriculture was significantly more profitable (22–35%) and had higher benefit/cost ratios (20–24%) than conventional agriculture.

vers equal or more nutritious foods (16–18) and generate less residue (17–19). Such aggregate studies generally support the perception that organic farming systems are more environmentally friendly than conventional farming systems. For example, environmental benefits include greater energy efficiency (20–22); enhanced soil carbon and quality (20–24); greater floral, faunal, and landscape diversity (21–23, 25–27); and less pesticide and nutrient pollution of ground and surface waters (20, 23, 25, 26). Although few studies have been conducted comparing the sociocultural aspects of organic and conventional agriculture, organic farming has been shown to have some sociocultural strengths, such as more humane animal production conditions (28).

With so few benefits, one wonders why anyone turns to organic farming, then.

- Well, it turns out that organic farming is much more profitable than conventional farming, because of the large price premium organic products attract.

- It's a hyper-capitalist, money-making racket that benefits farmers, and perhaps retailers, but not consumers or the planet.

- In fact, by raising prices, it makes consumers worse off.



“I’m much more interested in preventing cancer. Then we have to get out to the public what’s important. ... I just think all this business of organic food is nonsense, basically.

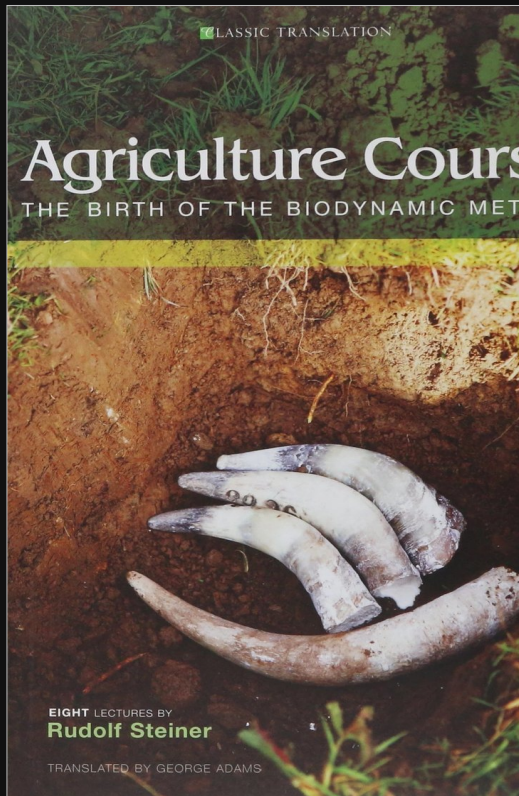
“We should be eating more fruits and vegetables, so the main way to do that is to make them cheaper. Anything that makes fruits and vegetables more expensive may increase cancer.”

– Dr. Bruce Ames, professor of Biochemistry and Molecular Biology Emeritus at the University of California, Berkeley, and a senior scientist at Children’s Hospital Oakland Research Institute (CHORI)

To quote Dr. Ames again, “I’m much more interested in preventing cancer. Then we have to get out to the public what’s important. ...

-

“I just think all this business of organic food is nonsense, basically. We should be eating more fruits and vegetables, so the main way to do that is to make them cheaper. Anything that makes fruits and vegetables more expensive may increase cancer.”



But here's where it gets weird. Organic farming has its roots in biodynamic agriculture, a system of farming advocated by the esoteric philosopher Rudolf Steiner in the late 19th and early 20th century.

-

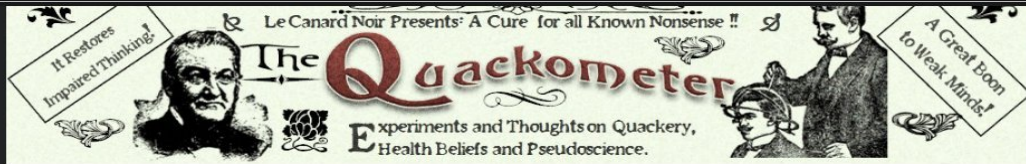


The seven signs of the apocalypse, which in Anthroposophy, a mystical philosophy established by Rudolf Steiner, are doors connecting the physical to the spiritual world.

Steiner was a weird fellow who tried to reconcile science and spirituality and believed that the spiritual world was accessible to the human senses and intellect.

-

His ideas, known as anthroposophy, live on today in alternative approaches to medicine, biology, agriculture and education. Anthroposophical societies exist worldwide, as do Waldorf schools, based on Steiner's principles of education.



Home > quacks > Rudolf Steiner > The Insidious Pervasiveness of the Cult of Rudolf Steiner

The Insidious Pervasiveness of the Cult of Rudolf Steiner

© July 5, 2012 👤 Andy Lewis 📧 Rudolf Steiner 💬 161



This morning, we **discovered** that pharmaceutical companies in Germany that manufacture homeopathic remedies, had been paying shills to discredit critics of alternative medicine. One of the organisations was Weleda, an anthroposophical health care company founded by Rudolf Steiner.

Yesterday, on my blog post on the Steinerist **Triodos Bank**, a pro-Steiner commenter tried to discredit my interpretation of Steiner's views on race and geology by calling an academic who had researched these ideas a "Janus faced historian and intellectual con artist". I asked him to tone down his language before I would allow him to post. It turns out that the person responsible was actually paid

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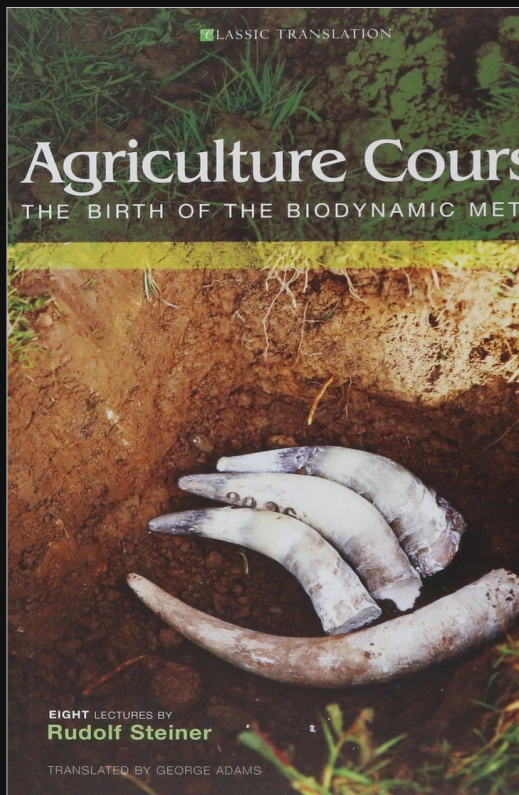
Steiner Free Schools Transferring to Hindu Academy Trust

© June 20, 2019 💬 10



Steiner Academy Exeter is an "Inadequate School".

Anthroposophy has been widely derided as pseudoscience, occultism, quackery, and a dangerous cult.



Biodynamic agriculture contains useful elements, such as considering a farm as an ecological unit, but it also includes practices from astrology and sympathetic magic. Those cow horns are stuffed with ground quartz. When buried, they are said to harvest cosmic forces in the soil.

-

It is shot through with unscientific mysticism.



That wouldn't be a problem for organic farming, except that the Soil Association, formed in 1945 to promote the idea of organic farming, continues to associate itself with magical nonsense and continues the resistance to scientific analysis.



As just one example, take Patrick Holden, who was the director of the Soil Association from 1995 to 2010, was the founding chairman of British Organic Farmers in 1982, is a patron of the UK Biodynamic Association, is a founding director of the Sustainable Food Trust, and is a Commander of the Order of the British Empire for his services to organic farming.

Live Better: sourcing sustainably
Live Better

Patrick Holden: 'People's image of farming is a complete fantasy'

To some an eco-capitalist, to others a die-hard hippy, farmer Patrick Holden reflects on shunning an 'us' and 'them' approach to organic farming for something altogether more holistic

- Are people finally turning away from supermarkets?
- Micro-dairies: small farmers fight back



Lucy Stegle

Wed 20 Aug 2014 10:31 BST

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Patrick Holden in the kitchen of his home in Wales. Photograph: Steph French Pictures

Patrick Holden is one of very few people you will meet in life who distinguishes between 'inspiring' and 'uninspiring' grass.

As we stand in a five acre field, one parcel of his 300 acre Bwlchwern Fawr farm in West Wales, I become convinced that this is indeed 'inspiring' grass. The field that stretches out before us looks alive to the naked eye; the rye grass and white and red clover bright in the sunshine, moving, slightly, with the breeze.

In an interview with The Guardian, Holden references Steiner and speaks approvingly of the role of homeopathy and astrology in farming.



The signature of the planet Mercury in plants: Capillary dynamic studies

Agnes Fyfe

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[https://doi.org/10.1016/S0007-0785\(74\)80025-6](https://doi.org/10.1016/S0007-0785(74)80025-6)

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Summary

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- 1 Plant sap tests made at the times of constellations of the planet Mercury show cup forms which are comparable with those that can be produced by adding mercury salts in solution to the gold reagent.
- 2 The cup form appears to be specific to the planet Mercury and the metal of the same name.
- 3 This connection is demonstrable only as it works in plant saps.
- 4 The cup forms appear prior to constellations, disappear during their course and reappear afterwards. These events seem to enhance the forces of the planet.
- 5 In cases of doubt, the "true" moment of a constellation can be determined from the plant test.
- 6 Constellations are never repeated under the same circumstances in the heavens. Because of this, variations appear each time in the pictures, and the duration of planetary influence on the plant also varies.
- 7 Some conditions are favourable, other unfavourable for the observation of the Mercury influence.

He cites the late Agnes Fyfe, an astrologer-chemist who published papers in the British Homeopathic Journal on the influence of planets on plant sap.

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He says she wouldn't be published in Nature, but that this is a problem. He considers the need for scientific validation an "obsession", and merely thinks that these nutty ideas are hypotheses yet to be proven.

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The seven signs of the apocalypse, which in Anthroposophy, a mystical philosophy established by Rudolf Steiner, are doors connecting the physical to the spiritual world.

Many ordinary organic food consumers might not know it, but the field is steeped in crazy, unscientific, mystical and magical ideas. It's pseudoscience.

Why people believe the craziest things about food

- ❁ The appeal of authority
- ❁ It's trendy to be sensitive
- ❁ Anti-capitalism and the myth of an idyllic past
- ❁ Mystical and spiritual beliefs

It is possible to argue against authority figures with facts, and research shows that consumers actually respond to greater knowledge.

-

It is, to some extent, possible to argue against misguided diet fads, but be aware that they're often deeply rooted in people's psychological makeup.

Why people believe the craziest things about food

- ❁ The appeal of authority
- ❁ It's trendy to be sensitive
- ❁ Anti-capitalism and the myth of an idyllic past
- ❁ Mystical and spiritual beliefs

It is far harder to argue against anti-capitalist ideology and the widespread myth that life was better in the past when we lived closer to nature. Doing so can spark so much outrage that people try to get you fired, as I discovered.

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Arguing against mystical beliefs is impossible. The rules of logic and reason simply do not apply. How do you argue against someone who times their planting by astrological signs, and believes the seven seals of the apocalypse are doorways between the real world and the spiritual world?

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Pseudoscience and strawberries: 'wellness' gurus should carry a health warning
Hadley Freeman

The blogger Belle Gibson has been exposed as a fraud - but the internet is still awash with others like her, pushing unsubstantiated nutritional advice



@HadleyFreeman
Wed 22 Apr 2015 17:36 BST

507 762



So a new genre of journalism has risen up in response to a growing trend, and it is one I also enjoy immensely, albeit in a slightly different way. Now, the articles I relish most are ones debunking quacky pseudoscience bloggers.

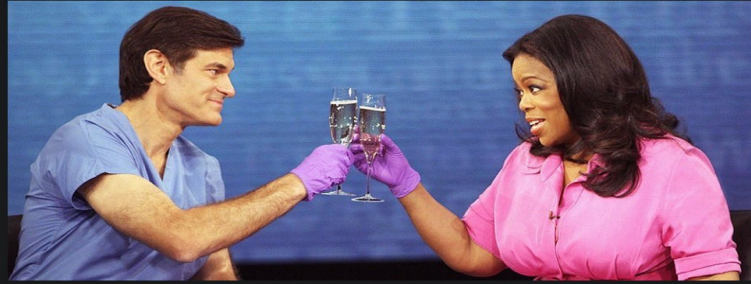
house in Oxfordshire / the Hamptons / the Caribbean and writes a suitably gushy piece about how this person's purchase of a £30,000 terracotta pot for their living room proves their moral superiority and, really, why don't we all cover our bedrooms in customised de Gournay wallpaper (\$650 per panel)?

But times change and journalism changes with it, and after the recession £30,000 terracotta pots began to look a bit infra dig. So a new genre of journalism has risen up in response to a growing trend, and it is one I also enjoy immensely, albeit in a slightly different way. Now, the articles I relish most are ones debunking quacky pseudoscience bloggers.

A classic of its kind will be published this week in the Australian Women's Weekly magazine which has an interview with self-described "wellness guru", 23-year-old Belle Gibson, who claimed in a blog to have cured her

It is against the supposed authorities that good, science-based writing can make an impact. There are signs of consumer fatigue with pretty young women eating strawberries and lecturing everyone on diet and health.

According to Hadley Freeman, writing in the Guardian a few years ago, the new trend is articles debunking quacky pseudoscience bloggers. Much like mine, I guess.



George Burns/Harpo Productions, Inc

The Decline of Pseudoscience

Now that "natural" living has gone mainstream, its days are numbered

By **PHOEBE MALTZ BOVY** May 4, 2015

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Have we reached peak green juice? *The New York Times'* Brooks Barnes suggests as much in a recent story about what a haute-hippie refuge in California is bringing to an already over-saturated market:

An article in the New Republic argued that with natural living having gone mainstream, the fashion for health nuttery must soon reach its zenith, if it hasn't done so already.

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They argue that following latest food fads will become passé, and the majority of consumers will seek out genuine, reliable information, rather than what vacuous starlets feed them on blogs and daytime TV.

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We can hope they're right, but I think countering baseless fads, ignorant TV experts, ideological bias and mystical quackery is an uphill slog that will be with us for a long time.

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What we can do, however, is understand the roots of these beliefs, so we can better address them, whether that is through journalism, corporate communications, product design or marketing.



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Ivo Vegter

Journalist, columnist,
researcher and author

South African Society of Dairy Technology, June 2020

I'll leave you with that thought.

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I'd like to thank the SA Society of Dairy Technology – and in particular Christine Leighton and Stefan Steyn – for doing me the honour of inviting me to give this talk.

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Thank you all for your kind attention.