Negative: Food Dyes – not a problem

By “Coach Vance” Trefethen

***Resolved: The United States federal government should substantially reform its agriculture and/or food safety policy in the United States.***

AFF Plan would ban all food dyes. This brief argues in favor of food dyes, shows why they’re not a problem. One of the key recent studies that claimed a link from food dyes to ADHD/hyperactivity in children is the McAnn Study, more often known as the Southampton Study. Listen carefully and if AFF cites that study, use the cards specific to it in this brief to refute that study.

NEGATIVE BRIEF: Food Dyes – not a problem 3

NEGATIVE PHILOSOPHY 3

Food dye panic is based on an urban legend going back to the 1970s 3

.SOURCE INDICTMENTS 3

Animal studies tend to exaggerate the risks 3

Half of all chemicals, natural or synthetic, will “cause cancer” when given to rats in high doses. It has no relevancy to humans. And our exposure to naturally occurring carcinogens is far higher than exposure to synthetic chemicals 3

Chemicals tested on animals rarely have identical effects on humans 4

INHERENCY 4

1. Status Quo has rigorous safety standards 4

Food colors are required to be tested and cannot be sold in the US until proven safe 4

2. Labeling solves 4

Status Quo law requires labeling of all foods with coloring, and consumers can easily avoid them if they want 4

HARMS / SIGNIFICANCE 5

1. No link to ADHD (hyperactivity) in children 5

No proof of a link from food dye to hyperactivity, and not enough information to make a recommendation to consumers 5

General review of all the studies finds no link between food color additives and hyperactivity 5

McAnn / Southampton Food Dye Hyperactivity Study –European Food Safety Authority (EFSA) review found it wasn’t solid enough to justify change in policy 6

Southampton Study: Too many unknowns and possible confounding factors to draw any conclusions 6

Southampton Study: Australia/New Zealand review found no reason to modify public policy based on Southampton. And intake of food colors is really low anyway 6

German review of food dye/ADHD studies finds no clear evidence of causation 7

Feingold Studies: Didn’t prove hyperactivity link to food dyes. 16 out of 18 studies found no effect, and any effects they believe they saw were caused by other factors. 7

Lots of theories, but nobody really knows what causes ADHD/hyperactivity 7

2. No brain chemistry link 7

Food dyes don’t cross the blood/brain barrier – they’re simply excreted from the body in our waste 7

Medical explanation of the blood/brain barrier for food dyes: The colors just don’t go into the brain 8

3. There are good reasons why food dyes are used 8

Food dyes prevent false consumer panic if food doesn’t look the way it should 8

SOLVENCY 8

1. Parent reported results of dye-restricted diets are not reliable 8

Parents get confused by ‘confirmation bias’ – they expect to see improvement, so they believe they do. We really need rigorous study instead 8

2. “Natural” colorings can’t replace food dyes 9

Natural colors aren’t stable enough, right color doesn’t exist, or aren’t available in sufficient quantity 9

3. More study needed 9

No conclusive studies have ever been done, and we need the FDA and other experts to publish guidance on what a good study would look like 9

Could be lots of other food intolerance issues, besides coloring, that cause symptoms – we just don’t know yet, the studies haven’t been done 9

DISADVANTAGES 10

1. Harmful to child development 10

Misleading children that their behavior is caused by food blocks them from taking responsibility or from seeking professional help 10

2. Masking Disadvantage. Affirmative distracts us from real threats to public health 10

Link: We’re focused on small traces of chemicals and ignoring things that are really killing lots of people every year 10

Impact: Net reduction in public health 11

Impact: Less healthy society. Chasing after chemicals sets back progress on moving toward healthier lifestyles 11

Impact: Focus on chemicals damages public health by diverting resources and distracting us from the real risks 11

3. Food dyes improve public health (so not having them will reduce it). Two ways: 12

1) Food dyes improve the consumer appeal of healthy food 12

2) Food dyes protect vitamin content 12

Works Cited: Food Dyes – not a problem (NEG) 13

NEGATIVE BRIEF: Food Dyes – not a problem

NEGATIVE PHILOSOPHY

Food dye panic is based on an urban legend going back to the 1970s

TIME MAGAZINE 2009 (journalist Dan Fletcher) “Red Dye No. 2” 6 May 2009 <http://content.time.com/time/specials/packages/article/0,28804,1896348_1896354_1895874,00.html>

Even today, artificial dyes are subject to some of the most bizarre fears and nastiest urban legends. Blame Red Dye No. 2. In the 1970s, Soviet scientists claimed a link between the dye — used in everything from sausage casings and ice cream to makeup — and cancer, and U.S. tests proved some correlation as well. Though it was never linked to any deaths or illnesses, the substance was banned from U.S. shelves in 1976. Consumer worries were enough to get the Mars candy company to pull red M&Ms from their lineup of colors, even though they never contained any Red Dye No. 2 to begin with. It would take 10 years for the collective panic to fade — and for the M&M spectrum to be complete.

.SOURCE INDICTMENTS

Animal studies tend to exaggerate the risks

Jon Entine. American Council on Science and Health.  2011.  (Entine is a senior research fellow at the Institute for Food and Agricultural Literacy at the [University of California,](https://en.wikipedia.org/wiki/University_of_California,_Davis)) (The American Council on Science and Health is a science education nonprofit organization) “Scared to Death: How Chemophobia Threatens Public Health” Published 2011. <https://www.scribd.com/document/48504531/Scared-to-Death-How-Chemophobia-Threatens-Public-Health>

Toxicology studies are important in public health because epidemiology is not very sensitive, as you cannot conduct experiments on humans. They serve as a basis for potency estimates and offer the opportunity to compare risks. However, the advantages of these studies must be balanced with their potential to exaggerate risk. High-dose effects do not necessarily occur at low doses and effects that occur in test species do not necessarily occur in humans exposed to the same agents.

Half of all chemicals, natural or synthetic, will “cause cancer” when given to rats in high doses. It has no relevancy to humans. And our exposure to naturally occurring carcinogens is far higher than exposure to synthetic chemicals

Dr. Bruce Ames and Dr. Lois Gold 2000 (Ames -professor of Biochemistry and Molecular Biology, Division of Biochemistry and Molecular Biology and National Institutes of Environmental Health Sciences Center, University of California at Berkeley and Lawrence Berkeley National Laboratory . Gold - director of the Carcinogenic Potency Project, Univ of Calif-Berkeley) Paracelsus to parascience: the environmental cancer distraction, MUTATION RESEARCH FRONTIERS Vol 447 <https://toxnet.nlm.nih.gov/cpdb/pdfs/Paracelsus.pdf>

In this essay, we summarize a decade of work, raising four issues that involve toxicology, nutrition, public health, and government regulatory policy. (a) Paracelsus or parascience: the dose (trace) makes the poison. Half of all chemicals, whether natural or synthetic, are positive in high-dose rodent cancer tests. These results are unlikely to be relevant at the low doses of human exposure. (b) Even Rachel Carson was made of chemicals: natural vs. synthetic chemicals. Human exposure to naturally occurring rodent carcinogens is ubiquitous, and dwarfs the general public’s exposure to synthetic rodent carcinogens.

Chemicals tested on animals rarely have identical effects on humans

Jon Entine. American Council on Science and Health.  2011.  (Entine is a senior research fellow at the Institute for Food and Agricultural Literacy at the [University of California,](https://en.wikipedia.org/wiki/University_of_California,_Davis)) (The American Council on Science and Health is a science education nonprofit organization) “Scared to Death: How Chemophobia Threatens Public Health” Published 2011.  (parenthesis in original) <https://www.scribd.com/document/48504531/Scared-to-Death-How-Chemophobia-Threatens-Public-Health>

Chemicals tested on animals rarely have identical effects on humans at comparable dosages, and sometimes have no discernible effect because of inherent flaws in studies and significant differences between the species in biochemistry, physiology and other metabolic systems. Other doubts have been raised because of what scientists call non-reproducibility—estrogenic effects and reproductive impacts shown in one laboratory cannot be confirmed in others.

INHERENCY

1. Status Quo has rigorous safety standards

Food colors are required to be tested and cannot be sold in the US until proven safe

Dr. Sean Taylor 2011 (PhD in chemistry; scientific director for International Association of Color Manufacturers) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

But what we heard yesterday is that colors are food additives under the 1958 Food, Drug, and Cosmetic Act. All color additives require premarket approval in the U.S. via color petition process. So you don't put something on the market -- our companies don't put something on the market until it goes through this very extensive premarket process. Ultimately, if the colors are considered to present no significant safety issues, then they're listed in the U.S. Code of Federal Regulations under Part 21, CFR Sections 73 and 74.

1. Labeling solves

Status Quo law requires labeling of all foods with coloring, and consumers can easily avoid them if they want

Dr. Sean Taylor 2011 (PhD in chemistry; scientific director for International Association of Color Manufacturers) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

In the U.S., additionally, FD&C colors are already listed by name and not by the sort of vague E-number. So you can go to the grocery store, and if it contains Red 40, it has to be on that label. If it contains Blue 1, it has to be on that label. If it's not on there, that's an illegal product. I think ultimately what that means is, as with all food ingredients, if the consumers choose to not eat a specific ingredient because they have some concern, whether we're talking about FD&C Yellow Number 5, whether we're talking about soy lecithin, whether we're talking about an artificial sweetener, whether we're talking about consumers interested in reducing fat, salt, sugar from their diet, they can look on the label and they can make an informed product choice.

HARMS / SIGNIFICANCE

1. No link to ADHD (hyperactivity) in children

No proof of a link from food dye to hyperactivity, and not enough information to make a recommendation to consumers

Dr. Steven Novella 2014 (MD; academic clinical neurologist at Yale University School of Medicine ) “Food Dyes and ADHD” 1 Apr 2014 <http://theness.com/neurologicablog/index.php/food-dyes-and-adhd/>

At present there does not seem to be a definitive answer to the question of whether or not any specific food coloring or combination of food dyes worsens the symptoms of ADHD or contributes to hyperactivity in children with or without ADHD. To clarify, there is no research showing that food dyes cause ADHD, the question is restricted to short term effects on behavior. There are some common themes in the reviews and meta-analyses. The existing research is currently inadequate to definitively answer the question, and further research is warranted. There appears to be publication bias affecting such reviews. Many studies are small, have problems with selecting subjects, and have small and inconsistent effects. It is possible there is an adverse effect on behavior in a subset of children. I agree with [one reviewer who concluded:](http://www.ncbi.nlm.nih.gov/pubmed/21729092)  
*While these strictures could have positive effects on behavior, the removal of food dyes is not a panacea for ADHD, which is a multifaceted disorder with both biological and environmental underpinnings.*An effect from food dyes is possible, but its overall effect on ADHD is likely minor and only one piece to a larger puzzle. Unfortunately this leaves us without a clear recommendation for consumers.

General review of all the studies finds no link between food color additives and hyperactivity

Dr. Jason Aungst 2011 (PhD; toxicology reviewer in the FDA’s Office of Food Additive Safety) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

Studies in the following years also showed either no neurotoxicity effect, a non-dose-response-related effect, or minimal effects at high doses. Similar effects of non-variable or minimal effects have been reported for a number of other chemicals tested, including some natural dyes, and some of those are listed at the bottom point. These are just some of the studies we examined up to the point of this review, and more studies continue to become available and we will continue to monitor those as they do. But currently, the available information has not established any clear link specifically between color additives and hyperactivity.

McAnn / Southampton Food Dye Hyperactivity Study –European Food Safety Authority (EFSA) review found it wasn’t solid enough to justify change in policy

Dr. Sean Taylor 2011 (PhD in chemistry; scientific director for International Association of Color Manufacturers) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

The EFSA opinion, I think, though, is a really important one, because we heard yesterday from Dr. Stevenson that I think shortly, very shortly after the study was published, he was asked to provide all of his data to the European Food Safety Authority so that they could carry out a review. And the review was specifically done by the EFSA AFC panel. And this is the panel that, at the time at least, was composed of people looking at food contact materials, colors, flavors, and other food additives. And that panel has since been dissolved and sort of broken up due to their heavy workload. But at the time the AFC panel evaluated this, the majority of the people on the AFC panel were also toxicologists, biochemists, medicinal chemists, not experts. So what they did is they brought experts in behavior, child psychiatry, and allergy statistics to help them review the study and to come to conclusions. These are the conclusions, and, actually, Dr. Stevenson I think presented these yesterday. The study provided limited evidence that the mixture of additives tested had a small effect on the activity and attention of some children. The effects observed were not consistent for the two age groups and for the two mixtures used in the study. The findings in the McCann, et al, study, which is the Southampton study, cannot be used as a basis for altering the acceptable daily intakes. That was the opinion that they published, I think it was back in 2008.

Southampton Study: Too many unknowns and possible confounding factors to draw any conclusions

Dr. Sean Taylor 2011 (PhD in chemistry; scientific director for International Association of Color Manufacturers) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

I think that there are a lot of unknowns in the Southampton study, a lot of things that should be followed-up on, but I don't necessarily think at this point that there's a clear causal effect related to color additives. What we know is that the mixtures apparently cause a statistically significant increase. We don't know whether that's due to one of the color additives that are used here in the U.S., one of the color additives that's not approved for use in the U.S., but that's allowed for use in Europe. We don't know whether that's related to sodium benzoate. We don't even know whether the preservative sodium benzoate may have caused an effect to preserve something within, say, the placebo or the vehicle mix that was lost because there was no preservative present.

Southampton Study: Australia/New Zealand review found no reason to modify public policy based on Southampton. And intake of food colors is really low anyway

Dr. Sean Taylor 2011 (PhD in chemistry; scientific director for International Association of Color Manufacturers) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf> (brackets added)

Similarly, Food Safety Australia-New Zealand concluded there were no public health and safety concerns due to the results of the [Southampton] study and no public health and safety risk from the consumption of foods containing added colors as part of a balance diet. I think it's important here, FSANZ actually did a color exposure survey when they were doing this work, and they asked the question, how high is the exposure of colors relative to the JECFA evaluated ADIs? And what they found uniformly for the FD&C colors that are approved for use in Australia is that they're actually very low. The levels are significantly lower than the acceptable daily intakes.

German review of food dye/ADHD studies finds no clear evidence of causation

Dr. Sean Taylor 2011 (PhD in chemistry; scientific director for International Association of Color Manufacturers) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

The BFR, this is the German Risk Assessment Institute, they suggested that the findings suggest indications of a possible association between the intake of specific food additives and increased hyperactivity. They noted that the observed effects were low compared with normal inter-individual variation. And I think specifically they said the behavioral changes don't occur in all children in the group nor do they occur in a statistically significant manner in all age and additive groups. The trial doesn't supply clear evidence of a possible causal association between additive intake and the observed effects. And again, they suggest there's no biological mechanism, and I think we heard yesterday there's some pretty intriguing information that should be looked at more thoroughly.

Feingold Studies: Didn’t prove hyperactivity link to food dyes. 16 out of 18 studies found no effect, and any effects they believe they saw were caused by other factors.

Dr. Jason Aungst 2011 (PhD; toxicology reviewer in the FDA’s Office of Food Additive Safety) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

Another important note here, if you remember from a previous slide, I had mentioned that 18 of these studies, the test populations were specifically chosen because they were sensitive to the Feingold diet. Of those 18, only two were concluded as positive for having effect with artificial food colors. So this suggests that if parents really are seeing effect of the Feingold diet, it's more likely due to some other component in the diet rather than artificial food color, and that could be a flavor, a different additive, or just some general type of food that was removed from the diet.

Lots of theories, but nobody really knows what causes ADHD/hyperactivity

Dr. Jason Aungst 2011 (PhD; toxicology reviewer in the FDA’s Office of Food Additive Safety) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

The reasons for onset of ADHD are still not quite understood. There are a number of proposed factors that have been brought up that may contribute to its etiology, such as environmental and genetic effects, allergic or immunologic responses, or psychosocial or dietary issues, or a combination of any of these.

1. No brain chemistry link

Food dyes don’t cross the blood/brain barrier – they’re simply excreted from the body in our waste

Dr. Sean Taylor 2011 (PhD in chemistry; scientific director for International Association of Color Manufacturers) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

The best data that we have generally is from animal studies, and we all know that animal studies are not perfect models for humans. But what we can say is we know that Red 3, for instance, binds to a specific plasma protein, and that complex is very large. It does not cross the blood-brain barrier. We know that the brains of rats that have been studied in toxicology tests don't show any levels of significant amounts of dye or any of the metabolites. So there is some preliminary suggestion that in dietary studies and, presumably, in humans, as well, and even in children, which have somewhat different blood-brain barrier properties compared to adults, there doesn't seem to be any significant amounts of these things that get to the brain. The dyes generally, these FD&C colors, are very rapidly excreted in the urine and the feces.

Medical explanation of the blood/brain barrier for food dyes: The colors just don’t go into the brain

Prof. George Gray 2011 (professor of environmental and occupational health and director of the Center for Risk Science and Public Health at the George Washington University School of Public Health and Health Services) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

You made a very, very interesting observation about the ability of these molecules to even get into the brain, and it actually reminded me of how I teach my students about the blood-brain barrier and its discovery by the German biochemist, Caryl Ehrlich, who also won the Nobel prize, who injected a dye -- not one of the ones we're talking about, but trypan blue -- into an animal's blood stream, realized that it stained the whole animal, except for its brain and its spinal cord.

1. There are good reasons why food dyes are used

Food dyes prevent false consumer panic if food doesn’t look the way it should

Dr. Sean Taylor 2011 (PhD in chemistry; scientific director for International Association of Color Manufacturers) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

Essentially, what happens is natural color in foods fades during food processing. And I think what that means is that if you have a product that has a naturally red color and you expect it's going to be red, and then you go to the grocery store shelf and it's brown or it's orange or it's yellow, it doesn't look like the way it's supposed it's supposed to look, and the consumer then is concerned. They say, "This thing is not safe to eat. It doesn't have the expected color appearance." We have very clear information from consumers that they expect foods are going to look a certain way. So one of the uses of colors is to offset that natural color loss during processing, during storage, et cetera.

SOLVENCY

1. Parent reported results of dye-restricted diets are not reliable

Parents get confused by ‘confirmation bias’ – they expect to see improvement, so they believe they do. We really need rigorous study instead

Dr. Steven Novella 2014 (MD; academic clinical neurologist at Yale University School of Medicine) “Food Dyes and ADHD” 1 Apr 2014 <http://theness.com/neurologicablog/index.php/food-dyes-and-adhd/>

It may seem obvious to recommend to parents of children with ADHD to try a dye-restricted diet in their children to see if it works. However, such subjective evaluation by parents is likely to be overwhelmed with confirmation and observer bias. It still may not be unreasonable to try it. At least there is no health risk to such a trial. But I would advice caution in interpreting the results, and weigh any perceived benefit against any inconvenience or added cost. I would not recommend draconian measures in the hopes of a dramatic effect. Mostly I hope to see some further rigorous trials to more definitively put this question to rest.

1. “Natural” colorings can’t replace food dyes

Natural colors aren’t stable enough, right color doesn’t exist, or aren’t available in sufficient quantity

Dr. Sean Taylor 2011 (PhD in chemistry; scientific director for International Association of Color Manufacturers) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

But there are still some technological limitations to the use of natural colors. There are certainly stability issues. Some of the applications in which colors are used, currently, we don't have a natural color that will really meet that specific demand due to the way that the specific product is processed. In some cases, the range of colors is somewhat limited. We don't have a great palate, for instance, of natural colors that are nicely blue relative to Blue1 and Blue 2. And I think the other thing, too, is that we have limited resources. The natural colors are not in easy and available supply at this point.

1. More study needed

No conclusive studies have ever been done, and we need the FDA and other experts to publish guidance on what a good study would look like

Dr. Sean Taylor 2011 (PhD in chemistry; scientific director for International Association of Color Manufacturers) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

I think -- as I said earlier, this issue has been out there for a long time, I mean, since the 1970s. We would love to see sort of a conclusive way, or as close as possible to a conclusive way, to carry out good studies that would be robust, internationally accepted, and that could really perhaps get to the heart of this issue. We recognize that that certainly takes time. It's certainly not resource -- it's very resource-intensive, I guess I would say. But I think both in terms of protecting consumer health and also protecting long-term viability of the color industry, those are the types of studies that ultimately are going to have to be done. And we need good guidance not necessarily just from the FDA, but from the experts throughout the world that can help us develop those types of guidelines.

Could be lots of other food intolerance issues, besides coloring, that cause symptoms – we just don’t know yet, the studies haven’t been done

Dr. Jason Aungst 2011 (PhD; toxicology reviewer in the FDA’s Office of Food Additive Safety) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

In support of a food intolerance issue, many of the children with reported improvement on the Feingold diet did not respond to color additives, and this suggests that other factors in the diet could be responsible. Following the NIH consensus statement recommendations, many studies began expanding into any food item suspected of causing an adverse reaction with the idea of individualized sensitivities or that multiple foods may provoke adverse behavioral reactions.

DISADVANTAGES

1. Harmful to child development

Misleading children that their behavior is caused by food blocks them from taking responsibility or from seeking professional help

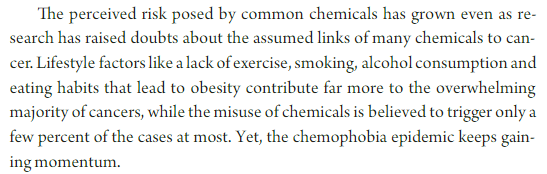
Dr Stephen Barrett 2004 (M.D.) “The Feingold Diet Dubious Benefits, Subtle Risks” <http://www.quackwatch.org/01QuackeryRelatedTopics/feingold.html>

The claims of Feingold advocates have steadily expanded, and some resemble those made by clinical ecologists. The 1986 Feingold Handbook for example, states that "sensitivity to synthetic chemicals in the food or environment, or to some natural salicylates" can cause adults to suffer from nervous habits, chronic fatigue, impulsiveness, poor self-image, poor coordination, mental and physical sluggishness, temper flare-ups, headaches, depression, erratic sleep patterns, and a "tendency to interrupt." These claims are absurd. The September 1992 issue of the Feingold Association's newsletter, Pure Facts, claimed that teachers and children have been noted to suffer from the effects of chemicals used in construction, furnishing, housekeeping, maintenance, renovation, pest control, food service, and classroom activities at their schools. An article titled "The Sick Building Syndrome" stated that one child was repeatedly disciplined for reacting to his teacher's perfume, another child became abusive toward his mother because of the school's newly painted lunchroom, and that yet another child required tutoring because of a very bad reaction to a leak in the school's oil furnace. Although exposure to significant levels of chemical fumes in poorly ventilated buildings can make people ill, such instances are rare. The idea that perfume causes misbehavior is nonsensical. Although fluoridation is a safe and effective to reduce the incidence of tooth decay, the FAUS Web site links to antifluoridation articles and displays abstracts of scientific articles with portions highlighted out-of-context to falsely suggest that fluoridation is hazardous.  
Real Risks  
Because the Feingold diet does no physical harm, it might appear to be helpful in some instances. However, the potential benefits should be weighed against the potential harm of:   
Teaching children that their behavior and school performance are related to what they eat rather than what they feel  
Undermining their self esteem by implanting notions that they are unhealthy and fragile  
Creating situations in which their eating behavior or fear of chemicals are regarded as peculiar by other children   
Depriving them of the opportunity to receive appropriate professional help (medication, psychotherapy, or both).

1. Masking Disadvantage. Affirmative distracts us from real threats to public health

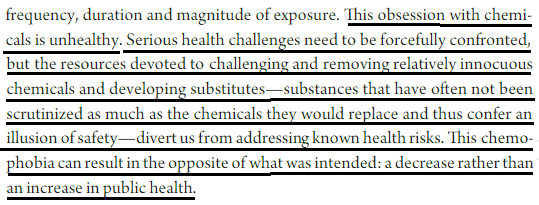
Link: We’re focused on small traces of chemicals and ignoring things that are really killing lots of people every year

Jon Entine 2011 ( senior research fellow at the Institute for Food and Agricultural Literacy at the University of California ) SCARED TO DEATH – How Chemophobia Threatens Public Health <https://www.scribd.com/document/48504531/Scared-to-Death-How-Chemophobia-Threatens-Public-Health>



Impact: Net reduction in public health

Jon Entine 2011 ( senior research fellow at the Institute for Food and Agricultural Literacy at the University of California ) SCARED TO DEATH – How Chemophobia Threatens Public Health <https://www.scribd.com/document/48504531/Scared-to-Death-How-Chemophobia-Threatens-Public-Health>



Impact: Less healthy society. Chasing after chemicals sets back progress on moving toward healthier lifestyles

Jon Entine. American Council on Science and Health.  2011.  (Entine is a senior research fellow at the Institute for Food and Agricultural Literacy at the [University of California,](https://en.wikipedia.org/wiki/University_of_California,_Davis)) (The American Council on Science and Health is a science education nonprofit organization) “Scared to Death: How Chemophobia Threatens Public Health” Published 2011.  (parenthesis in original) <https://www.scribd.com/document/48504531/Scared-to-Death-How-Chemophobia-Threatens-Public-Health>

The consensus among cancer experts is that tobacco and diet (obesity) are the leading preventable causes of cancer, together making up half of to two thirds of all cases. Infections are believed to cause 15-20 percent of the cancers with radiation, stress, lack of physical activity and environmental pollutants causing the rest. “Maybe up to 4 percent of cancer in the Western world is caused by contaminants and pollution and yet we are chasing new, unknown causes rather than focusing on acting on what we know,” said Graham Colditz, an epidemiologist at the Washington University School of Medicine in St. Louis and an adjunct professor at the Harvard School of Public Health.“Things like this report are making it harder to move the nation to a healthier lifestyle.”

Impact: Focus on chemicals damages public health by diverting resources and distracting us from the real risks

Dr. Bruce Ames and Dr. Lois Gold 2000 (Ames -professor of Biochemistry and Molecular Biology, Division of Biochemistry and Molecular Biology and National Institutes of Environmental Health Sciences Center, University of California at Berkeley and Lawrence Berkeley National Laboratory . Gold - director of the Carcinogenic Potency Project, Univ of Calif-Berkeley) Paracelsus to parascience: the environmental cancer distraction, MUTATION RESEARCH FRONTIERS Vol 447 <https://toxnet.nlm.nih.gov/cpdb/pdfs/Paracelsus.pdf>

The major causes of cancer (other than smoking) do not involve exogenous carcinogenic chemicals: dietary imbalances, hormonal factors, infection and inflammation, and genetic factors. Insufficiency of many micronutrients, which appears to mimic radiation, is a preventable source of DNA damage. (d) Damage by distraction: regulating low hypothetical risks. Putting huge amounts of money into minuscule hypothetical risks damages public health by diverting resources and distracting the public from major risks.

1. Food dyes improve public health (so not having them will reduce it). Two ways:
2. Food dyes improve the consumer appeal of healthy food

Dr. Sean Taylor 2011 (PhD in chemistry; scientific director for International Association of Color Manufacturers) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

In some cases, they enhance naturally occurring color, not in a way that's designed to mislead the consumer, but in a way that's designed to appeal to the consumer preference. And then they add variety. They add variety and wholesome and nutritious foods. The way that they do that is in many cases to provide a colorful identity to foods that are otherwise colorless. In some cases, they add aesthetic appeal.

1. Food dyes protect vitamin content

Dr. Sean Taylor 2011 (PhD in chemistry; scientific director for International Association of Color Manufacturers) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>

There are a few cases for both exempt colors and at least one of the FD&C colors where they actually absorb some of the sunlight and protect flavors and vitamins that could be affected and broken down by that sunlight. And I think, ultimately, they play sort of a critical role in how we taste and enjoy food, how we think about food as being palatable.

Works Cited: Food Dyes – not a problem (NEG)

1. TIME MAGAZINE 2009 (journalist Dan Fletcher) “Red Dye No. 2” 6 May 2009 <http://content.time.com/time/specials/packages/article/0,28804,1896348_1896354_1895874,00.html>
2. Jon Entine. American Council on Science and Health.  2011.  (Entine is a senior research fellow at the Institute for Food and Agricultural Literacy at the University of California,) (The American Council on Science and Health is a science education nonprofit organization) “Scared to Death: How Chemophobia Threatens Public Health” Published 2011. <https://www.scribd.com/document/48504531/Scared-to-Death-How-Chemophobia-Threatens-Public-Health>
3. Dr. Bruce Ames and Dr. Lois Gold 2000 (Ames -professor of Biochemistry and Molecular Biology, Division of Biochemistry and Molecular Biology and National Institutes of Environmental Health Sciences Center, University of California at Berkeley and Lawrence Berkeley National Laboratory . Gold - director of the Carcinogenic Potency Project, Univ of Calif-Berkeley) Paracelsus to parascience: the environmental cancer distraction, MUTATION RESEARCH FRONTIERS Vol 447 <https://toxnet.nlm.nih.gov/cpdb/pdfs/Paracelsus.pdf>
4. Dr. Sean Taylor 2011 (PhD in chemistry; scientific director for International Association of Color Manufacturers) testimony before the FDA Food Advisory Committee 31 March 2011 <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM255119.pdf>
5. Dr. Steven Novella 2014 (MD; academic clinical neurologist at Yale University School of Medicine ) “Food Dyes and ADHD” 1 Apr 2014 <http://theness.com/neurologicablog/index.php/food-dyes-and-adhd/>
6. Dr. Steven Novella 2014 (MD; academic clinical neurologist at Yale University School of Medicine) “Food Dyes and ADHD” 1 Apr 2014 <http://theness.com/neurologicablog/index.php/food-dyes-and-adhd/>
7. Dr Stephen Barrett 2004 (M.D.) “The Feingold Diet Dubious Benefits, Subtle Risks” <http://www.quackwatch.org/01QuackeryRelatedTopics/feingold.html>
8. Jon Entine 2011 ( senior research fellow at the Institute for Food and Agricultural Literacy at the University of California ) SCARED TO DEATH – How Chemophobia Threatens Public Health <https://www.scribd.com/document/48504531/Scared-to-Death-How-Chemophobia-Threatens-Public-Health>