Saving the Planet with Pesticides and Plastic: A Critical Review

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December 2000

"In high dose rat tests, pesticide residues have proven less dangerous than mustard and pickles! The rapidly lengthening life spans in countries using farm chemicals are a strong indicator that we thrive on the foods containing both the natural and marmalade [sic] "carcinogens" labeled risky in the high-dose rat tests."
Dennis Avery, Saving the Planet with Pesticides and Plastic, pp 64-65.

Abstract

Dennis Avery's *Saving the Planet with Pesticides* and Plastic challenges the conventional wisdom about how to "save" the environment, and outlines policies that Avery believes will allow farmers to feed the world's growing, more affluent population while preserving wildlife and wildlands. Avery advocates doing more research in agricultural technology and using the best and most productive areas and technologies to feed the world's people with as little environmental and economic cost as possible. Avery spends much of his effort dispelling popular concerns about the environmental ramifications of our chemical-based way of life, such as the potential threat of pesticides such as DDT. In so doing, he dismisses nearly the entire body of peer-reviewed scientific literature and instead replaces it with his own speculations, theories, and selected statistics. Avery presents his heavily biased agenda in a juvenile format, aimed at a less informed and nonscientific readership. His lack of objectivity detracts from any appeal that his book might otherwise have and it would likely not have been published were it not for the protective guise of the Hudson Institute. Whether right or wrong, the path of technology that Avery touts is inevitably the one that our collective future efforts will follow. On this, we have no recourse. Only time will tell whether this will bring us the affluent state of global stasis he envisions or quite the opposite, the eventual inability to adapt to the environment that we have created for ourselves.

Introduction

Dennis Avery has served in a wide variety of capacities dealing with global food issues, most notably as senior agricultural analyst for the U.S. Department of State. He is now attached to the Hudson Institute, a not-for-profit research organization that forecasts trends and makes recommendations about public policy for businesses, governments, and the public at large. In his book *Saving the Planet with Pesticides and Plastic*, Dennis Avery comments on the potential consequences of a wide range of worldwide societal practices from birth control to the use of agricultural chemicals. The title of his book as well as those of the chapter titles (Preventing Cancer With Pesticides, There Is A Lot Less Hunger Than We Have Been Told, The Empty Threat of DDT, Drink Up, the Water's Fine) gave me an initial suspicion of his objectivity and motives. Avery's ineffective style and indiscrete bias eventually become repetitive, monotonous, and even quite humorous. With his wording alone, he seems to intentionally open himself up for scrutiny as he makes this curious, unsuccessful attempt to overturn the conventional and scientific wisdom on some of the largest societal and environmental challenges faced today.

My preliminary literature reviews and Internet searches reveal Avery not as a scientist or even a respected public voice but rather akin to a modern day public policy critic and perhaps muckraker. One of Avery's recent articles, for example, is egregiously entitled "Wallace Institute Got it Wrong: CDC Data Does Indicate Higher Risk from Organic and Natural Foods. This, of course, was answered with the requisite angry and upset responses from proponents of

organic farming. Most of the articles he writes for newspapers such as The Chicago Tribune, The Wall Street Journal, and Christian Science Monitor are listed under the *Opinion* section. *Saving the Planet with Pesticides and Plastic* should be considered of the same literary genre as his newspaper articles. Much of the information in this book is speculative and will never be substantiated one way or the other.

Protected by a self-assumed impunity, Avery dismisses the most objective research results of refereed, peer reviewed scientific journals and reports his own agenda in his clever "Mythmakers Say, Reality Says" format. It is generally unclear what objective criteria he uses when deciding which statements are assigned to which heading. For the most part, this book is a random collection of selected quotations, hearsay, and statistics concerning a wide variety of topics. The book lacks continuity and will not be addressed in its entirety. Certain selected portions and points are addressed in the discussion section.

Discussion

"Few have ever found perfection in the short, mean, dangerous, life of the wilderness. The American Indian found no mystic perfection in the life of the hunter-gatherer. When the Indians were running the country, myths about harmony with nature took second place to the desperate need for meat. Often it meant pushing the "old ones" out into the winter snow to die quietly (in their 50's). Even more often, it meant killing people from the neighboring tribes to ensure that one's own tribe would have enough hunting ground to survive."

This statement, made by Dennis Avery on page 27 of *Saving the Planet with Pesticides and Plastic*, is just one example of his lack of knowledge and poor understanding of true sustainability. No historical or literary reference is given for this description of early Native American life because it is inaccurate

and simply fabricated. In fact, the only real records we have of early Americans are petroglyphs, pictographs, and flakes of arrowheads we find in the dirt, giving us a teasing glimpse of 12,000 years of the most sustainable human inhabitation this planet will ever see. This is a time span that Mr. Avery might be uncomfortable including in his discussion of his answer to global food issues: high tech agriculture. Although I agree with the point Mr. Avery is making in the first chapter – that we cannot "return to nature" – his denial of certain prehistoric facts is a detrimental departure from his origins. Not until the development of agriculture about 10,000 years ago did human populations grow to levels that caused any significant resource conflicts. Although not to be glamorized, the hunter-gatherer lifestyle does approach the ideal in terms of global sustainability and looking to that time in history can still provide valuable lessons for the future. It is absurd to infer that aboriginal peoples kicked their elders out into the snow because they could not feed them. Additionally, there is absolutely no evidence of widespread fighting for hunting ground in prehistoric times. In fact, there is more evidence showing that early people intentionally lived in small, scattered communities and controlled their populations, fully understanding that territory was not unlimited and that they could not encroach on a neighboring band's land.

In chapter 6, The Empty Threat of DDT, Avery single handedly dismisses the potential environmental threat posed by nearly all pesticides in use. By repeatedly pointing out the lack of hard scientific evidence that shows any detrimental *human* health effects of pesticides, he ignores the subtle yet important analytical results being obtained by dozens of top researchers. At the

same time he downplays any evidence that show negative effects pesticides may have had on wildlife and tends to adopt the attitude that “if humans are OK, then everything is OK.”

There is no question about the presence of pesticide residues in the environment and in food commodities. Determining the collective and long-term effects of DDT and other pesticides on higher life forms has long been an area of intense scientific research (Matsumura 1975). Avery’s general opinion concerning this topic is summarized on page 39:

> ***“Today’s pesticides are basically metabolized or excreted by birds, fish, and mammals. The DDT residues that remain in the tissues of many people and creatures have been isolated and rendered harmless; they have never been linked to any health threat.”***

Experimental results from some leading scientific researchers, however, say otherwise. Admittedly, the environmental toxicology of pesticides has proven difficult to quantify or even surmise as most of the known health effects of pesticide residues are subtle and occur only after long-term exposure to sub-acute doses (Matsumura 1975). Malfunctioning immune system responses have been known to occur in a number of groups exposed to certain pesticides that can affect antibody and white blood cell counts. Recently, clinical studies have shown that organophosphate pesticides can bind to cell membrane bound proteins that help the immune system cells destroy foreign organisms. (Repetto 1996)

A growing body of scientific research identifies DDT as an estrogen mimic with definite relation to human conditions such as breast cancer. Although the mechanisms are not yet well understood, some significant correlations have

been made. Analysis of thousands of archival serum samples collected during a study at New York University between 1985 and 1991 has shown strong association between high serum concentrations of the DDT metabolite DDE and breast cancer in women. (McCarthy 1993) Additionally, recent research has shown that DDT exposure to embryonic fish can cause female embryos to turn into males before they hatch. (Hesman 2000) This should be evidence enough for Avery to recognize the potential risks that DDT may present to us in the future.

The evidence and statistics Avery presents frequently does not make sense in terms of standard toxicological concepts. An example from page 114 may illustrate this:

- Chickens given 100 parts per million DDT produced eggs that hatched normally
- Chickens fed 20 ppm of PCB's had reduced egg production and the hatchability of their eggs was "almost completely eliminated"

From a toxicological standpoint, not much can actually be concluded from these vague and ambiguous statements. Although he gives the *concentration* of toxicants the chickens were exposed to, it cannot be determined the actual *amount* of toxins these chickens were exposed to. Nor does it appear to be worded in terms of body burden amounts, which would be the most useful for a toxicological comparison. These types of statements he makes are in no way useful in determining the effects of DDT or PCB's on chicken eggs. It is likely that he is only presenting a portion of the evidence in order to slant the facts in favor of his arguments.

In short, all pesticides and herbicides are designed to disrupt biological processes and bring death to the target plants and animals. Given that humans have many of the same biological processes of other life forms, it is naïve to even suggest that we can continue to use these chemicals with absolutely no chance of affecting ourselves in the process.

Conclusion

On the most rudimentary of levels I enjoin Avery's spirit in haphazardly dismissing the "death and destruction" that we have consistently predicted for ourselves throughout recorded history. Worrying about *perceived* threats paradoxically detracts from our wellness and will surely bring an early extinction to the fearful and morose. On the other hand, however, Avery's overly biased presentation in *Saving the Planet with Pesticides and Plastic* detracts from the healthy and rational public and scientific dialogue concerning some of the most serious of human concerns.

References

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