Food Researched: Strawberries
Focus of Research: Pesticides
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Chemical Warfare: The Politics of Pesticides and Strawberries

Objectives

The goal of this report is to cover the politics of pesticide use on strawberries in the United States in the last century. In doing so, this report will investigate the political history of pesticide use in the United States, the policies that allow for the use and proliferation of pesticides, how decisions about pesticides are made, and scrutiny towards pesticide use. Next this paper will cover the current controversy of methyl iodide in California that should be a perfect case study for the politics of pesticides on strawberries. Finally this paper will discuss the present debate over the use of non-organic seeds and stock in organic strawberry farming.

Summary of Findings

Political History of Pesticides on Strawberries

For as long as pesticides have been used on strawberries, strawberries have been notorious for their high levels of pesticide residue by cause of the very intense pest management they require, their soft skin’s ability to absorb pesticides, and the government’s unwillingness to control the use of such chemicals.¹ Currently, the Environmental Working Group ranks strawberries as the 3rd worst possible food to eat based on pesticide residue risk, and there over 50 pesticides used in growing strawberries in the United States, many of them know carcinogens, neurotoxins, hormone disruptors, and creators of other human and environmental health destruction.² But even despite high levels of pesticides today, safety of produce has greatly improved within this last century. In the late 19th and early 20th centuries, farmers began to primarily use toxic lead arsenate to combat a host of new pests that would arrive and proliferate on farms specializing and expanding for hungry cities. Incidences of sickness and even death, as well as fruit showing up in markets heavily spotted with white pesticide powder and increasing medical concerns, revealed the government’s inadequacy in enforcing proper pesticide regulation

¹ Dellorto, Danielle. "'Dirty Dozen' Produce Carries More Pesticide Residue, Group Says." CNN.com. Published electronically June 1, 2010.
and their favor towards agribusinesses. The 1906 Pure Food and Drug Act gave the responsibility of protecting consumers from harmful chemicals in foods to the Bureau of Chemistry (which became the FDA in 1930), but the law gave the agency little authority. With the Bureau of Chemistry’s parent agency, the USDA, adamant on promoting the use of insecticides to boost economic interest in farming, very little protection was created for consumers.

Immediately after World War II, stockpiles of the insecticide DDT made for the military began to be used on fields as DDT was touted by the government as a “wonder insecticide.” Production of pesticides grew threefold from 1945 to 1950 to over 300 million pounds. The responsibility for approving new pesticides, reviewing previously approved ones, and setting tolerances levels for pesticide residue is currently held by the Environmental Protection Agency (EPA) since 1970, but the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) previously gave the FDA that responsibility from 1948 to 1970; the USDA, however, holds the responsibility of finalizing the approval and enforcing rules. Part of the government’s failure, historically and currently, in appropriately addressing pesticide issues can be blamed on the dispersion of responsibilities to several agencies that have contradictory goals. As the FDA was beginning to realize the harm caused by DDT, the more agribusiness-oriented USDA ignored the FDA’s increasing scientific concerns and compelled them to keep quiet. Much like situations to come (such as the controversy over methyl bromide, below), scientists and the FDA were at political war with agribusinesses, chemical manufacturers, and the USDA who backed them up. However, there was very little public interest in the battle over DDT because of a general presumption of chemical safety and efforts to keep information out of the public ear. By 1960, U.S. production of pesticides rose to over 782 million pounds of over 100 types of pesticides. Rachel Carson’s book, Silent Spring (published in 1962), thankfully created widespread concern for the environment and pesticides while focusing on DDT, and from this widespread concern came the ban on the use of DDT in most cases by 1972.

Recent Strawberry Pesticide Issues: Methyl Bromide and Methyl Iodide

Methyl bromide, a broad-spectrum fumigant that sterilizes soil and has been widely used in growing strawberries, is being phased out of use under the 2004 Montreal Protocol because of its damaging affects to stratospheric ozone. For the decade before 2004, the worldwide use of methyl bromide had decreased by over 70 percent, but the United States consumed more methyl bromide the year after the pesticide was supposed to be phased out than it did the year before. Successful lobbying by strawberry agribusinesses yielded “critical use exemptions,” which allows the pesticide to be used if it is deemed that there are no economically viable alternatives.

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5 Vileisis, Kitchen Literacy, 178-9.
7 Vileisis, Kitchen Literacy, 180-1.
for growers. Methyl bromide is still used today, 8 years after it was supposed to be gone; consumption, however, has gone significantly down, and methyl iodide was created as an alternative. For growers. Methyl bromide is still used today, 8 years after it was supposed to be gone; consumption, however, has gone significantly down, and methyl iodide was created as an alternative.

The controversy over the use of the pesticide methyl iodide on strawberries is unmatched in the public backlash it created as well as the exposure of the government’s faults in the regulation of pesticides. Methyl iodide is a fumigant pesticide used almost exclusively for strawberries that is marketed as a replacement for methyl bromide. Arysta LifeScience Corporation, the world’s largest privately-owned pesticide company, is the sole manufacturer of methyl iodide, which they sell under the brand name Midas.

In 2007 under the Bush administration, the EPA approved the use on the national level of methyl iodide against strong opposition and set the maximum safe exposure level to 193 parts per billion. An open letter to the EPA from 54 esteemed scientists – including 6 Nobel laureates – urged the EPA “to do whatever is possible to prevent this chemical from ever becoming a registered pesticide,” citing serious concerns about cancer, thyroid toxicity, permanent neurological damage, and fetal losses, as well as denouncing the EPA’s conclusions about “acceptable risks.” The letter writes: “It is astonishing then that the Office of Pesticide Programs is working to legalize broadcast releases of one of the more toxic chemicals used in manufacturing into the environment.” Among the general public, however, the EPA’s approval of methyl iodide in 2007 did not garner much attention, but the controversy in California years later did.

Controversy Over Methyl Iodide in California

A few years later, the approval of methyl iodide in California would cause an uproar never before seen. The state of California, which grows approximately 90 percent of strawberries in the country, has its own review process within the California Department of Pesticide Regulation (CDPR). The CDPR provided its own external panel of scientists to further evaluate the potential risks of methyl iodide, and in February of 2010 the panel reported its findings:

“Based on the data available, we know that methyl iodide is a highly toxic chemical and we expect that any anticipated scenario for the agricultural or structural fumigation use of this agent would result in exposures to a large number of the public and thus would have a significant adverse impact on the public health. Due to the potent toxicity of methyl iodide, its transport in and ultimate fate in the

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environment, adequate control of human exposure would be difficult, if not impossible.”

Furthermore, the panel strongly recommended an exposure limit of 0.8 parts per billion. On December 1st of 2010 at the end of the Schwarzenegger administration, the CDPR gave final approval on the use of methyl iodide in California with a exposure limit of 96.0 parts per billion, 120 times larger than recommended by the department’s own scientists. This decision met very harsh criticism from non-profit groups, legislators, scientists, and the general public. Over 50,000 letters of disapproval were sent to the CDPR from the public during the period between its pending and final approval, by far the biggest controversy any CDPR decision has ever created. The CDPR, however, remained steadfast in their decision.

The CDPR essentially ignored the science and gave in to corporate pressure, as it has no obligation to base its policy on the recommendations of its scientists. Susan Kegley, a consulting scientist for the Pesticide Action Network, said that the CDPR’s “method was to consult with the pesticide manufacturer and determine what was acceptable to them, and then decide on what an acceptable level of exposure was.” Arysta LifeScience used a number of political tactics in order to inflict influence on the CDPR, such as extensive lobbying, confidentiality claims, funding of faulty science, and delay tactics; the CDPR similarly made very dubious claims of the chemical’s assured safety that by no means erred on the side of caution. The CDPR declined to release the rationale behind their reasoning, citing the "deliberative process privilege" that exempts branches of the government from doing so. It is contested that the CDPR also faked an “emergency” situation that allowed the approval of methyl iodide to be sped up and completed before the less agribusiness-friendly administration under California governor Jerry Brown took over. Greg Loarie, an attorney at Earthjustice, claims, “What they did - and this in our view really flouts the law - was to say that the emergency was that they were going to register this thing before the end of the year. They created their own emergency. They didn’t have to register methyl iodide. They could have waited. They just didn’t want to.”

In March of 2012, Arysta LifeScience Corporation pulled methyl iodide from the United States market, citing its low “economic viability in the U.S. marketplace,” though it is still used

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13 Standen, Amy. "Controversial Pesticide Worries Scientists."
16 Standen, Amy. "State Scientists Ignored in Pesticide's Approval."
17 Standen, Amy. "State Scientists Ignored in Pesticide's Approval."
in may other countries around the world.\textsuperscript{19} The removal of methyl iodide from the market – not to be confused with a reversal on its approval that would forbid its use in the United States – can certainly be attributed to the large backlash the controversy created in California, which included farm-workers unions, non-profits, and a large contingency of the public. The government has conflicting obligations of supporting the farmers who may benefit from using this chemical (and thus supporting the welfare of big agriculture corporations such as Arysta LifeScience) and supporting the health of the general public.\textsuperscript{20} Rick Tomlinson, Public Policy Director of the agribusiness-oriented California Strawberry Commission, claims that a fumigant like methyl iodide is the only economically viable option for growers besides subsidies; this supposed need of methyl iodide is a key reason for the CDPR caving into agricultural corporation pressure.\textsuperscript{21} Interestingly enough, the CDPR is indirectly funded by taxes on pesticide sales, providing another incentive to support pesticide makers.\textsuperscript{22}

The Californian controversy over methyl iodide is the strongest representation of corporate power over the government and the welfare of public, as well as the potential drastic toxicity of strawberries for workers, neighbors, and consumers. The consumer is not the sole concern of the government in regulating pesticides. As we have seen, strawberries have had a history of potent toxicity, and this methyl iodide controversy has shown that the government does not regulate the use of pesticides well enough for proper consumer safety. The methyl iodide uproar also represents the large shift in public concern over pesticides and health in the last 75 years, both for humans and the environment.

\textit{Debate Over Organic Strawberries}

Vague federal regulations on organic produce have also recently been a contested issue, with opponents focusing on the allowance of non-organic strawberry seeds and plant stock used by organic strawberry growers. California, in fact, lacks a single organic strawberry nursery, so virtually all strawberry plants go through a non-fruiting rotation in a nursery with fumigants such as methyl bromide.\textsuperscript{23} The National Organic Program’s standards currently allow non-organic stock to be used whenever organic stock is not “commercially available,” which is language that is very easy for farmers to subvert. A letter to the USDA, sent by the Pesticide Action Network and organic growers, said that non-organic materials used in organic farming “violate existing regulations and jeopardize the credibility of the organic label.”\textsuperscript{24} Those seeking a strawberry sustainable from start to finish come against strong opposition from big-organics, who want to buy non-organic seeds and stock that are presumably cheaper and less prone to disease and pests.

\textsuperscript{21} Estabrook, Barry. "Chemical Warfare Rages in California's Strawberry Fields."
\textsuperscript{24} Gross, Rachel. "Farmers Seek to Raise Standards for Berries."
Sources


