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GMOs on Kauai, part 1: A decade of increasing division

In previous bulletins, we discussed the role that Hawaii plays in field-testing new corn hybrids, including new genetically modified (GM) varieties, on Kauai, Oahu, Maui, and Molokai. Seeds—primarily corn seed—are the state’s most commercially valuable crop, worth \$217 million in the 2012–2013 growing season. In ten years, the value of Hawaii’s seed industry has grown by 350%. About half of the seed corn grown in Hawaii is transgenic, or genetically modified (GM).



Concerns that federal and state regulations are inadequate to provide environmental and public health protection have resulted in efforts at the county-government level to regulate seed producers. These efforts include legislative action by the county council and ballot initiatives voted on by the public. Our next bulletins will trace these actions on Kauai, Maui County (which includes the islands of Maui and Molokai), and on the island of Hawaii (also called the Big Island). We’ll start with Kauai in this bulletin.

Kauai’s salubrious mild climate and multiple growing seasons first attracted seed corn growers in the late 1960s. Three decades later, with the collapse of the island’s sugar industry, seed producers expanded their operations on land that had once been used to grow sugar cane. Today, four large companies producing seed corn own or lease about 12,700 acres of Kauai farmland.



Cleome gynandra

There have been a number of incidents where local communities blamed these companies as the source of problems experienced. Some examples are summarized here. On several occasions between November 2006 and April 2008, some of the students and teachers at Waimea Canyon Middle School (WCMS) experienced dizziness, headaches, and nausea associated with strong odors from neighboring agricultural fields leased by Syngenta. The seed producer reported that it followed label instructions and regulations when applying pesticides and proposed that the odors might instead be caused by stinkweed (Cleome gynandra).

The Kauai County Council and the Hawaii Department of Agriculture funded research to test the air for agricultural pesticides and also for noxious chemicals from stinkweed. Air sampling by a UH Manoa research team in 2010 and 2011 found five pesticides and 14 stinkweed chemicals at WCMS. Two of the pesticides date back to the plantation era (they are no longer used) and were also present in air at other schools where students had not been ill. Stinkweed chemicals were likewise found at other schools.



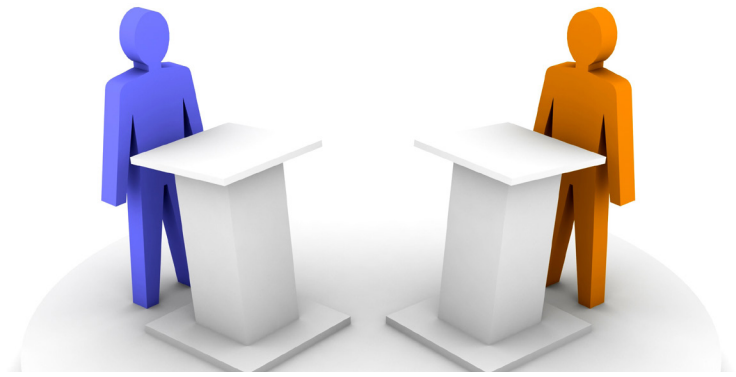
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Divided Opinions

Three pesticides found at WCMS but not at other schools—chlorpyrifos, bifenthrin, and metolachlor—were present at concentrations well below both federal NOAELs (no observable adverse effect levels) and more stringent California standards for subchronic exposure. Methyl isothiocyanate released from stinkweed was likewise below federal and California standards at WCMS. A final report submitted in 2013 is available on Kauai County's government website. While the Hawaii Department of Agriculture found no evidence of pesticide misuse and did not determine that the incidents were caused by pesticides, community opinion was deeply divided, with many members of the public expressing certainty that pesticides were to blame despite the evidence to the contrary.



In 2011, another seed producer, Pioneer Hi-Bred (DuPont), was sued by more than 150 Waimea residents in state court. The lawsuit also named Gay and Robinson, a landowner that leases land to Pioneer. The plaintiffs alleged that dust and pesticides from the defendants' fields had damaged their properties. While based on issues of dust control and pesticide drift, the complaint repeatedly emphasized that the fields were used to test GMOs. A different set of residents filed a similar lawsuit in 2012.

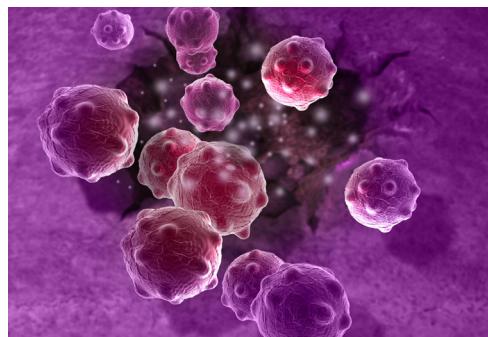
Litigation



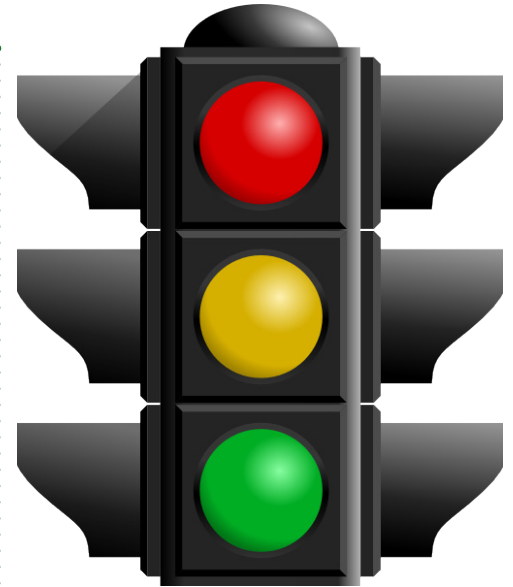
These lawsuits, which remain active, have since been moved to federal court. In 2014 a judge decided that expert witnesses would not testify about possible effects that pesticides might have on human health and the environment. U.S. District Judge Leslie E. Kobayashi stated that the lawsuits did not include substantial claims of health or environmental effects and noted that those issues would greatly complicate the residents' nuisance complaint against the seed company and the landowner.

Cancer Claims

Some members of the community on Kauai claimed that there was a higher rate of cancer in the vicinity of the same growing areas. A study was conducted by the Hawaii State Department of Health, and reported in April 2013. The report (available on-line), found that cancer incidence on Kauai and within each census tract was similar to or lower than that of the entire state of Hawaii. The exception was melanoma, a skin cancer, with higher incidence in northern Kauai for the period 2000 to 2004.



More Regulation



As these lawsuits progressed through the courts, they were overshadowed in 2013 by a bill put before the Kauai County Council to strictly regulate the island's seed companies, their use of pesticides, and their production of genetically engineered crop varieties.

In our next bulletin, we'll take an in-depth look at Kauai County Bill 2491, examining the bill's evolving text, its polarized supporters and detractors, and its journey through the legislative, executive, and judicial branches of government.

