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# Our planet needs evidence-based policies, not preconceived notions



Thousands of protesters march through San Francisco on April 22 holding signs in the name of science as federal budget cuts threaten scientific research. (Sheila Fitzgerald / Shutterstock.com)

By Robyn Purchia on April 26, 2017 1:00 am



We can't blame Donald Trump and his alternative-fact minions for ushering in the post-truth world. It's always been hard to

accept new scientific data, especially when it seems to contradict deeply held beliefs. Four hundred years ago, the famous astronomer Galileo was interrogated, threatened with torture and arrested for publishing observations and arguments that the Earth revolved around the sun.

San Franciscans may feel immune to such nonsense. The City has championed numerous environmental policies based on climate research and medical findings. At the March for Science on Saturday in The City, tens of thousands took to the streets in support of facts and evidence.

But evidence is sometimes hard to accept — even for San Franciscans. After all, we have preconceived notions and beliefs, too.

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"It's possible to have politically motivated views on the liberal side that would lead you to reject science," Dr. Andrew Shtulman, a cognitive developmental psychologist, told me.

Shtulman, author of the new book "Scienceblind," pointed to the anti-vaccine, homeopathy and unpasteurized milk campaigns that have received traction in liberal communities. He explained that science is counterintuitive. Left to our own devices, it's easy to believe natural is best. It takes knowledge and experience to accept evidence that shots aren't dangerous, pharmaceuticals are sometimes necessary and processed dairy is the healthier choice.

Genetically modified (GM) foods are another example. A 2014 Pew survey found only 37 percent of Americans thought GM foods were safe to eat, while 88 percent of scientists said they were safe. This 51-point gap was the largest opinion difference Pew found while surveying the public and scientists on a range of issues.

Clearly, scientists have not convinced the public.

I asked Dr. Pamela Ronald, a plant geneticist at UC Davis and speaker at the San Francisco March for Science, why people distrust GM food. She said scientists must do a better job providing information, but she also pointed out that few people learn about plant breeding in school and understand how genetic seeds work. Maybe people are relying on intuition more than science.

"The term GMO [genetically modified organism] is confusing and brings up a lot of emotions," she told me. "Scientifically, the term is meaningless."

The truth is humans have tinkered with plant DNA to produce bigger and tastier crops for thousands of years. An Assyrian carving from 870 BCE shows the artificial pollination of date palms. References to primitive genetic engineering appear in the Torah and in Islamic stories. Much of our food has been altered from its natural state.

Today, these alterations are carefully monitored. Each new GM crop in the U.S. is subjected to rigorous analysis and testing before receiving approval. If a new trait is added, developers must prove the trait is neither toxic nor allergenic. According to major scientific organizations, consuming GM food is no riskier than consuming food from conventional plant breeding technologies.

Data also shows a strain of cotton (Bt cotton) developed to combat pests has dramatically reduced the use of insecticides around the world.

Of course, corporate influence over our food supply, intense monoculture farming and pesticide use raise social-equity, environmental and health concerns. But these concerns aren't limited to GM food, nor do they apply to every GM crop.

Ignoring evidence and rejecting all GM food simply because it feels unnatural and unsafe is as anti-science as rejecting climate change, evolution and the fact the Earth revolves around the sun.

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have problems.”

It’s true. Our planet and the billions who inhabit it won’t survive if we refuse to trust the realities of our world. The Trump administration is waging war on facts and science. San Franciscans, and everyone who marched on Saturday, must fight back with evidence-based policies, even if the evidence challenges our beliefs. We must be open to new — sometimes scary — ideas. That is supporting science.

*Robyn Purchia is an environmental attorney, environmental blogger and environmental activist who hikes, gardens and tree hugs in her spare time. Check her out at [robypurchia.com](http://robypurchia.com).*

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