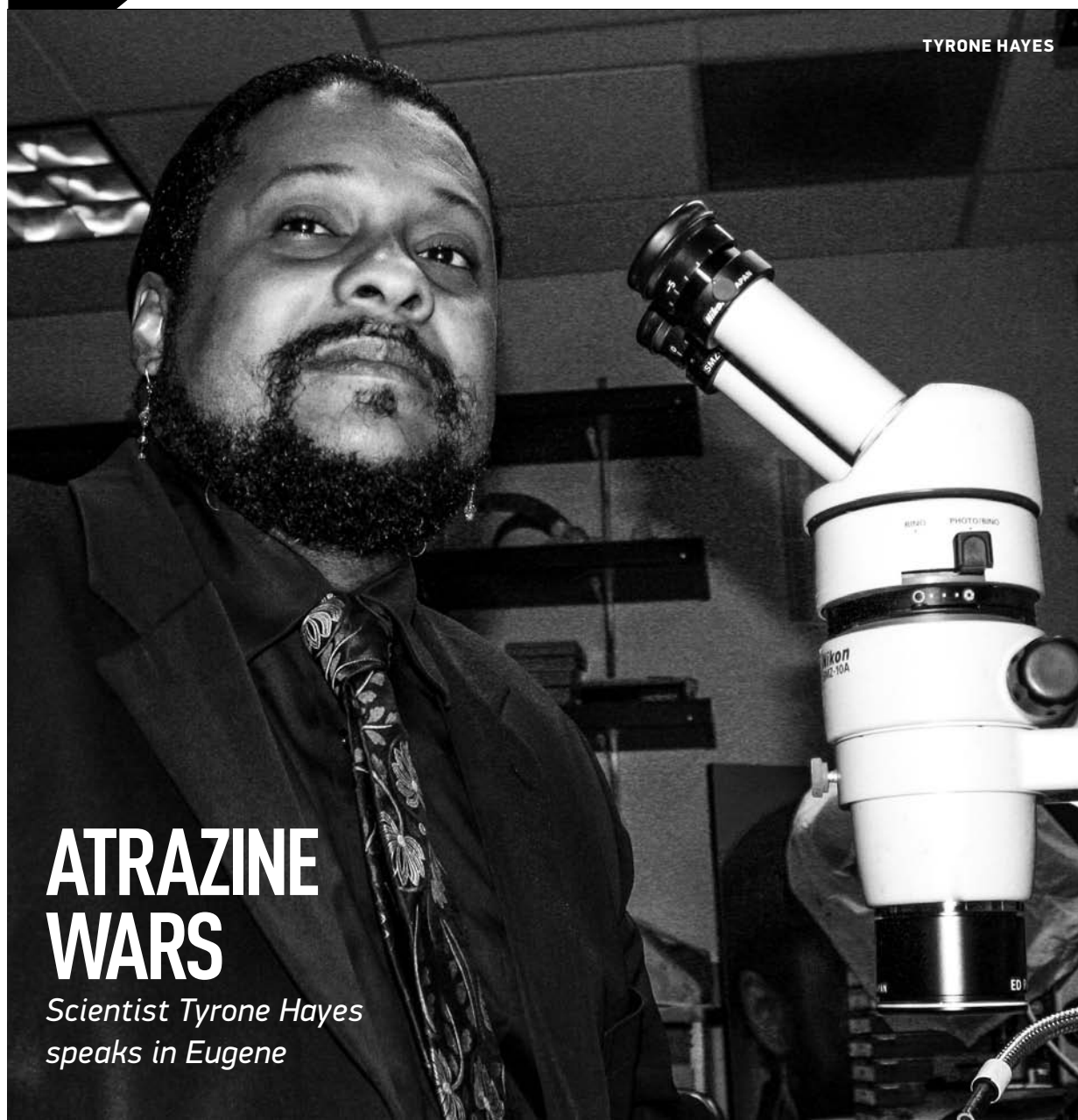




TYRONE HAYES

ATRAZINE WARS

Scientist Tyrone Hayes speaks in Eugene

Scientist Tyrone Hayes reels off the list of effects on amphibians, rats and humans that he and other researchers have linked to the chemical atrazine. They include breast cancer, prostate cancer, decreased sperm counts, impaired fertility, a reduction in masculine features and abortion in pregnant rats exposed to the chemical, to name a few.

Atrazine is one of the pesticides found in the urine of dozens of residents, including children, of rural Triangle Lake, just west of Eugene.

Hayes, who will be coming to University of Oregon, Eugene as well as Triangle Lake next week to give several talks, is an amphibian developmental endocrinologist, a Harvard grad and a professor in the Department of Integrative Biology at Berkeley with a long list of publications in scientific journals. And, thanks to his research, he is persona non grata to chemical giant Syngenta, atrazine's developer.

Residents of Triangle Lake have long complained about the effects of aerial pesticide sprays that they say drift onto their houses and farms and into their water and their bodies. It wasn't until 41 of the residents had their own urine tested by Dana Barr of Emory University — who found atrazine and 2,4-D, two chemicals commonly sprayed in forestry applications — that the state began to investigate.

While the Oregon Health Authority has found that residents were exposed to these chemicals, according to the Highway 36 Exposure Investigation's 2013 public health assessment, "We are unable to determine if the levels of atrazine metabolites found in participants' urine in the spring of 2011 indicate harm to health. Unlike 2,4-D, there is no reference value for the atrazine metabolites tested for in participants' urine."

The investigation was also unable to test for other pesticides as the state says it could not find a lab capable of doing that and was "unable to determine the health effects of exposure to multiple pesticides at low doses."

Hayes' work allows state and federal agencies to better understand the possible effects on human health by chemicals such as atrazine. In 1997, Hayes was asked by Syngenta to conduct experiments on the herbicide atrazine, but when his research on frogs began to show that the chemical causes abnormal sexual development — a decrease in testosterone, hermaphroditism especially in males — he says the work was slowed down by a lack of disbursement of funds.

Hayes tells *EW* that Syngenta was "not too enthused by the work," and it tried to manipulate his data and gag his research. He then began to conduct his research on atra-

zine independently of Syngenta. He says the company tried to discredit his work, hired other scientists to do "poorly conducted studies" and "eventually that spiraled into the company actually threatening me and even making threats of violence against my family."

Hayes had long suspected Syngenta was targeting him. He says court documents have revealed an orchestrated multimillion-dollar campaign against him: Syngenta hacked his email, tried to purchase his name on the internet, hired scientists, pundits and PR people to link him to scandals, "storybook stuff out of movies."

A February 2014 piece in *The New Yorker* delved into Syngenta's attacks. The court documents used in the article came from a class-action lawsuit in the Midwest that Syngenta settled for \$105 million for the costs of filtering atrazine from drinking water, though the company denies all wrongdoing.

While Syngenta points to studies — some of them which the company funded — that show atrazine is safe, other studies such as "Case-Control Study of Maternal Atrazine Exposure and Male Genital Malformations" in the *American Journal of Medical Genetics* show it is linked to a small penis, hypospadias (the penis opens in the wrong place) and cryptorchidism (undescended testicles).

Hayes didn't take Syngenta's targeting lying down. One thing he did was send emails to the company using hip-hop lyrics:

"aww shucks ... i'm bouta handle my biz right now
see you bucked ... wondering ... 'what it is right now?'"

ya outa' luck ... bouta show you how it is right now
see you're ****ed ... (i didn't pull out) and ya fulla
my j*z right now!"

Hayes, who is African American, says, "They attacked me personally, and part of that attack was to try to make me feel isolated and try to make me feel what many minorities, professionals and otherwise, feel — this idea of you don't belong and of course your work is wrong. You are not smart enough. You are not good enough."

That line of attack didn't work, Hayes says. "The mistake they made was I've been dealing with this all my life ... this is something that I was over. I'm confident in who I am and where I am." He used hip-hop rhymes because "I could express myself in my own way. ... No matter what, my science was still good, the language of science is the language of science, and I can express that however I want."

The emails "confused them a little bit," Hayes laughs. "I think my response was one where they went 'Whoa shit, what do we do with this guy now?'"

The residents of Triangle Lake and other rural communities around Oregon have also faced attempts to discredit them or discourage them from getting answers about the chemicals being sprayed in the area. "I think solidarity is important, connecting with other groups is important," Hayes says. "If you are a smaller group, connect with larger groups."

He says the type of campaign Syngenta waged against him is "sometimes a hard thing to believe," but, according to Hayes, for Syngenta "this is an attack on their lifestyle and how they make their money." Syngenta, the world's largest maker of crop chemicals, reported a net profit for 2013 of \$1.64 billion. "I think there's no end to what they would do," he adds.

Though he has been outspoken on getting the word out about the effects of atrazine, Hayes says it does not affect his objectivity as a scientist. "There are side effects and you should be informed and aware," he says, calling his research an informed opinion.

"You can decide whether or not you want to take Tylenol," he says, "but right now you don't have control over atrazine in your water." Making sure people know about his atrazine research is "not a loss of objectivity, it's a sense of responsibility."

As part of Hayes' visit to Eugene, he will participate in a "Witness to Action" bus tour to Triangle Lake with participants from communities around Oregon affected by pesticide sprays. ■

FRIDAY, OCT. 24

City Club of Eugene, "A Second Silent Spring?" Downtown Athletic Club, noon. \$5 nonmembers.

Panel discussion with Elizabeth Reis, Professor of Women's and Gender Studies, "Nature in Doubt: Intersex in a Chemical Era," 3 pm, 250 Clinical Services Bldg., UO. FREE.

Convocation Keynote Address: "From Silent Spring to Silent Night: Of Toads and Men" 7 pm, 182 Lillis, UO. FREE

SATURDAY, OCT. 25

"Witness To Action Assembly: Putting Chemical Trespass On Oregon's Agenda" bus tour and assembly, Triangle Lake Grange, box lunch provided, FREE, advance reservation required at beyondtoxics.org/TyroneHayes

Hayes's visit is a joint effort between Beyond Toxics and the UO Environmental Studies.