
Ag scientists feel the heat

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Ames, Ia. - University and government scientists studying health threats associated with agricultural pollution say they are harassed by farmers and trade groups and silenced by superiors afraid to offend the powerful industry.

The heat comes from individual farmers, commodity groups and the U.S. Department of Agriculture, which finances and controls much of the research.

And the pressure is growing, some scientists say.

"It's rampant," said JoAnn Burkholder, an acclaimed aquatic botanist trained at Iowa State University who received death threats after warning North Carolina parents not to let their children wade in a manure-polluted stream.

Scientists in Iowa and other states say that the USDA kills controversial research by forcing it through an extended approval process. The agency also keeps researchers from publicizing sensitive findings in scientific

journals and at public meetings and cooperates with industry groups to suppress research results that don't meet the groups' satisfaction, they charge.

Such pressure tactics have been reported in the tobacco, pharmaceutical and oil industries. But they are every bit as intense, if not more so, in the agricultural arena:

*** Bosses told James Zahn, a former federal swine researcher in Ames, that he couldn't publish his findings that air emissions from hog confinements contained potentially health-threatening antibiotic-resistant bacteria. They wouldn't let him speak to citizens groups about the study after pork producers questioned the appearances. The work, they said, didn't fit the lab's mission.**

*** Burkholder, the aquatic botany professor at North Carolina State University in Raleigh, drew a flood of demands for her dismissal in 1997 after she publicized the human-health dangers of a stream polluted so severely by hog manure that the number of bacteria was 15,000 times higher than the state limit. Burkholder received anonymous death threats, including one against her dog, Peanut.**

*** Phillip Baumel, a longtime Iowa State University economist, said he faced retribution from the Iowa Corn Growers Association in 2000 after his study questioned the benefit of expanding the lock-and-dam system along the upper Mississippi River. Corn farmers said the work would speed shipments and was worth the money. The corn growers objected**

to the study and its tardiness, and they declined to pay for it.

"None of it surprises me," said Burkholder, who received a bachelor's degree in zoology from ISU. Her lab tied sewage and manure pollution to a toxic organism, *Pfiesteria piscicida*, that can kill fish and sicken humans.

"I have seen some very sad practices in this country," Burkholder said.

"Industry has a stranglehold on environmental issues to the point that this muzzling goes on all the time."

Sandy Miller Hays, spokeswoman for the USDA's Agricultural Research Service, said the government works closely with farm groups to do the research they need, but it doesn't let them skew or suppress results. "We do the research we feel needs done, we put the findings out there, and we let the chips fall where they may," she said.

Farm organizations, including the Iowa Pork Producers Association and the National Pork Board, say they have no intention of squelching researchers' work, even when the groups have paid part of the tab.

Association President Tim Bierman, a Larrabee hog farmer, said his group wants to make sure the work is presented fairly and based on facts, not on an anti-industry bias.

"As long as the research is done with sound science and done correctly, we're going to stand by it," Bierman said.

Scientists, who typically initiate the studies, say the pressure is stopping important work meant to protect the taxpayers, who foot most of the bill. Even when the work gets done, they worry about efforts to

manipulate or muffle the results. For some, the bigger fear is that scientists will censor themselves to avoid angering the boss or losing a grant.

On one front, the battle is for academic freedom, researchers say, but the implications reach much further: Some of the scientists are studying pollution believed to have the potential to sicken or kill people.

Some say the close relationship between the U.S. Department of Agriculture and industry groups is to blame.

"The USDA has a long-term relationship with pork producers," said Zahn, who left his job at the USDA's Agricultural Research Service lab at ISU in May to join an out-of-state pharmaceutical firm. The service is one of the Agriculture Department's largest research divisions, with about 2,000 scientists, and nearly half of them are involved in farm pollution issues in one way or another, said Hays, the ARS spokeswoman.

Certainly, researchers studying pollution from farms don't face industry pressure universally. But no one tracks how often scientists who are paid by taxpayers are silenced or intimidated. Those brave enough to speak out usually have secure jobs at universities or, like Zahn, leave the public arena.

Zahn said his superiors wouldn't let him submit for publication perhaps one of his most important findings - that the air emitted by hog confinements contained potentially health-threatening antibiotic-resistant bacteria - and several times refused invitations for him to speak

about his findings.

Zahn also was uncomfortable that an "advisory panel" of hog farmers, assembled by the USDA, watched over the lab's work. In fact, national pork groups have at times had offices in the same government buildings as the USDA labs.

"No other government agency ever had this hand-holding relationship with a livestock group," Zahn said after he quit the USDA job.

Hays said the nature of her agency - researching ways to improve agriculture - requires cooperation with farm groups. "Obviously, we pay attention" when the pork industry lays out an area that needs research, Hays said. But the work is objective and independent, she added.

Hays said advisory groups are common at many USDA labs. The commodity groups help frame research needed to protect the environment and to make farming more efficient. Kendall Thu, a former University of Iowa researcher now at Northern Illinois University, has co-written a book on the shift to large-scale livestock confinement operations and has studied the health of farm neighbors in Iowa and Illinois. He said Zahn's predicament is common.

"His story is deeply disturbing and fits a pattern of industry intimidation, the muzzling of freedom of speech and erosion of academic freedom," Thu said.

Economist Neil Harl at ISU said farmers are flexing their political muscle like never before in the arena of scientific research.

"I see more pressure from external sources than I have seen in my 38 years at this school," he said.

"They pulled the rug out"

Microbiologist James Zahn was eager to get the word out about his groundbreaking work on antibiotic-resistant bacteria that grow in hog confinements. The germs can escape into surrounding water and air. His research on air emissions showed that they could include organisms that make people sick while resisting common antibiotic treatments. Zahn's studies were small but presented potential problems not widely reported elsewhere. One suggested that emissions from Iowa and Missouri hog confinements routinely violated federal pollution limits. The study that found antibiotic-resistant bacteria in air near confinements drew wide attention among scientists and confinement opponents.

That attention had to build by word of mouth. Zahn's bosses at the USDA's Agricultural Research Service in Ames refused to let him submit a paper on his work for publication in scientific journals - something that normally is expected, and even required, of researchers.

His supervisors also repeatedly denied Zahn permission to accept invitations to speaking engagements, where he hoped to share his findings.

"They pulled the rug out from under me on the work, which was novel work," he said.

Zahn, who earned a bachelor's degree in biology from Central College in Pella and a doctorate in microbial physiology from ISU, joined the research group in 2000. He has won several major research awards, including one from the American Society for Microbiology, and is respected in his field.

But he didn't feel respected by the USDA.

Especially frustrating was the department's list of controversial topics that cannot be researched without approval from national headquarters, Zahn said. The list was changed, he said, to include his work on antibiotic-resistant bacteria.

The list of subjects, obtained by The Des Moines Register, appears to require special permission to study anything involving agricultural pollution of air, water or soil.

Hays said the actions on the antibiotics paper had to do with keeping Zahn's lab within its mission. The agency backs antibiotic research at some of its other labs, but Zahn's work didn't seem to fit in at Ames, she said.

Research on any of the subjects on the list isn't necessarily forbidden, Zahn acknowledged, but such research could encounter delays, which in turn could result in loss of grant money. With no money to do the research, the work would be stymied anyway.

"If people want to sit on it, they sit on it," Zahn said of his former superior Peoria, Ill., and at the Agricultural Research Services information headqua

Hays said it can take a long time to get approval for research on a topic on the list. But the long wait isn't a sign the agency is trying to stop work in the area, she said.

Research on antibiotic-resistant bacteria might have made it to the list because of the attention Zahn was drawing from groups that wanted him to speak at public meetings. Perhaps a dozen times, Zahn said, his bosses in Ames and at regional and national headquarters forbade him from discussing his work in public or private meetings. His research director, Brian Kerr, said it was just a few times.

Among the invitations Zahn had to turn down were appearances at a Des Moines Water Works session, a summit on hog issues called by private groups in Clear Lake, and an Adair County Board of Health meeting to discuss confinements.

Zahn later found a fax trail showing that information about his planned appearance at the Adair County meeting first passed from an environmental advocacy group to a Des Moines TV station, then to the Iowa Pork Producers Association office. Someone there sent the fax to the National Pork Producers Council in Zahn's building. A pork council worker contacted Zahn's boss, Kerr, to question the appearance, Zahn said. Kerr then called his superiors in Peoria, who decided Zahn could not speak at the meeting.

The reason? The meeting was related to human health, which didn't fit the lab's "mission."

In an interview, Kerr said: "The main reason we elected not to speak at those meetings was we refocused on the mission of our unit. That mission did not include antibiotics or antibiotic resistance. Another reason is that the meetings would include speaking on human-health impacts. We do not do that."

But a statement posted on the lab's Web site reads, in part: "The mission of the Swine Odor and Manure Management Research Unit is to solve critical problems in the swine production industry that impact production efficiency, environmental quality, and human health."

The unit, according to its Web site, is also supposed to find confinement management techniques that reduce "nutrient excretion, production of odor, gaseous emissions, and release of pathogens into the environment."

Bierman, president of the Iowa Pork Producers Association, said he wasn't aware of any interference by his group.

He did say, however, that public meetings sponsored by advocacy groups give him pause. "Some of these meetings are one-sided. You can get caught in the middle of something and try to present information correctly, and they will twist it and will use it against you," Bierman said.

Zahn's bosses also worried aloud about Zahn's attending potentially controversial meetings. Kerr, the research director, referred in an e-mail to the "environmental-political frying pan of Iowa," the nation's top producer of corn and hogs.

Hays, the research services spokeswoman, said: "What I remember is in each of the cases, we looked the meeting, and asked, "Is this the best arena for Jim Zahn to present his research?" and it didn't look like the best fit."

The agency doesn't want scientists at meetings where they may be pressured by groups with an agenda to say things that go beyond the research, statements that then find their way into policy debates, she said. "It isn't that it's controversial or that we don't like these people," Hays said.

Zahn's bosses said they had another reason for their decision: His research, they said, didn't fit the Ames lab's "mission." That reasoning was used in at least one other instance, when Zahn's supervisors denied permission for him to speak about antibiotics in waterways at a private meeting of Des Moines Water Works officials and members of agriculture groups. In contrast, another federal researcher, Dana Kolpin of the U.S. Geological Survey's Iowa City office, was allowed to speak to the group - twice.

Kerr told Zahn in an e-mail regarding the waterworks meeting: "We are not to be conducting research dealing with antibiotic-resistant bacteria nor are we working with these and potential human-health concerns. Although our unit can measure some of these compounds in the air and water, it's not our focus, thus I would have to decline this travel request." Hays said she didn't believe Zahn's antibiotic work fit the description,

despite direct references to environmental quality and human health.

"Mission" stymied another agriculture researcher's study.

James Russell, a USDA scientist who works at Cornell University in Ithaca, N.Y., became embroiled in a public fight in 1999 with two scientists who he said had ties to livestock groups. Russell had published a paper showing that feeding hay to cattle instead of corn for a few days before slaughter reduced the odds of E. coli contamination in meat.

Russell abandoned the research after what he considered professional attacks - on an Internet site and in a scientific journal. He declined to talk about why he stopped the research. But a Midwestern USDA scientist familiar with Russell's research and this particular situation said the Agriculture Department "marginalized" the work "after complaints from the beef industry and from universities."

His superiors at the USDA's Agricultural Research Service told Russell they had chosen other labs around the nation for food-safety research. "They offered to let me work at the lab in Nebraska," Russell said, "but I chose to stay in New York."

In the Iowa case, Zahn resigned in May from the USDA lab and took a job with a pharmaceutical company out of state. He declined to provide details on that but said he would remain on ISU's teaching staff.

Previously, he had worked for Eli Lilly and Co.

Thu, the Northern Illinois anthropologist, extended one of the speaking invitations to Zahn, only to have it rejected by Zahn's supervisors.

"I think there is no question that the pork producers short-circuited the process," Thu said. "What it says is USDA is subject to industry pressure and members of the public are not getting the independent research and presentation they need."

Criticism rejected

Livestock groups say researchers' criticism is off base. Officials of state and national pork organizations say that they support objective research, as a policy and through research grants, and that they encourage producers to limit pollution.

The National Pork Board, for instance, finances scientific studies with fees from hog farmers, said spokeswoman Cindy Cunningham. Details of the studies must be approved by USDA officials, a process that she considers proof of objectivity.

The board does not try to avoid controversial issues, she said. It held a two-day Pork Quality and Safety Summit in Des Moines in June, which included presentations on controversial issues such as alternatives to feeding antibiotics to hogs. The group this year offered up to \$40,000 per project to scientists who would study the spread of pathogens from confinements and possible health effects. It also sought studies of alternatives to feeding hogs low levels of antibiotics, which is what causes medicine-fighting bacteria to grow in the animals and their manure.

Any criticism that the pork board is trying to stifle objective research or

skew the USDA-reviewed study plans "is just ludicrous," Cunningham said.

Typically, the scientists suggest an experiment, and then the pork groups decide whether to finance part of the work. After that, they have no say in the research or how the results are used, she said.

The Agricultural Research Service takes in money from farm groups and other private sources equal to about 9 percent of its \$1 billion annual budget. In Zahn's case, for instance, pork producers paid up to one-third of the cost of some research.

Farm groups contend that they want balanced presentations in print and in public meetings and a chance to review the data that led to researchers' findings. "There isn't a preconceived, "Here's what we want to know," " said Paula Chizek of the Iowa Corn Growers Association. "We do exercise our right to exercise our concern if we feel there is misinformation or inaccuracy or if something has been taken out of context. You'd better believe we'll look into it."

People who have fought to stop construction of large-scale hog confinements are angered by what they see as the gagging of scientists. Jeff Ruch of Public Employees for Environmental Responsibility, a nonprofit alliance of government workers interested in environmental protection, said federal workers have a First Amendment right to discuss their work with groups and individuals as long as the workers don't say their comments are the official stance of the agency.

Even so, he said, those workers should think twice before they take advantage of their rights.

Bosses, he said, can retaliate in subtle ways against employees who stand up to them. "Your career could be over," he said.