

Researchers find a link between pesticides and Parkinson's disease; local group seeks action

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Linda Comeau's body does not move when she tells it to. She lies in bed every morning and waits for her pills to start working.

She has tremors, trouble speaking, her legs feel very weak and she trips a lot, she said.

"I've tried, in my mind, to beat it, but I guess it's probably more powerful than I am," Comeau said. "I just feel that this is my plight in life and you just have to carry on."

Comeau has had Parkinson's disease since 1999. Her husband had it for two years before he passed away from other ailments. They were world travelers and business owners.

She attributes their diagnosis to pesticides they were allegedly exposed to in other countries where regulation and inspection is not adhered to as it is here, she said.

"I think as long as we had it together, there was something that we both got into," she said. "That's my guess. I don't know why he would have it and I as well. Why?"

Jon Roberts, a member of the Parkinson's and Pesticides Committee, also believes his diagnosis was the result of pesticides to which his mother was exposed around 1952.

"I can't prove it," he said. "Figuring that the pesticides contaminated the well water, it was passed on to me as a deformed, doormat gene."

Roberts experiences rigidity in his limbs and takes medications by the clock.

"It's a debilitating disease," he said. "At least for

me, it started out slow. I was diagnosed 10 years ago at age 50 and I was able to work up until 2008."

Roberts is one of six people on the Parkinson's and Pesticides Committee, a part of the Parkinson's Disease Support Group of Southern New Mexico. The committee is taking a stand and trying to promote new legislation on pesticide use, while doing more research on the link between pesticides and Parkinson's disease.

The group recently pushed House Memorial 42 through the 2013 legislative session with a 68-0 vote. The memorial requests that studies be conducted regarding the impact of pesticides on citizen's health. It will enlist the New Mexico Department of Health to document state trends and statistics, Roberts said.

"We're viewing this as a health issue, not a political issue," Roberts said. "This is a health issue we feel is important, that the country needs to take action on."

What is Parkinson's?

Parkinson's disease is a neurodegenerative brain disease that progresses slowly and has no cure. It effects the way a person moves when certain nerve cells stop or slow down the production of dopamine, a chemical that sends signals to the part of the brain that controls movement. Causes of the disease include



Sen. William Soules takes a look at growing plants at Anthony Youth Farm, which does work with troubled youth and does not use pesticides on their crops. (Andi Murphy photo)

reactions to prescription and illegal drugs, stroke, thyroid or parathyroid disorders, repeated head trauma, brain tumors and conditions and exposure to environmental toxins, according to WebMD.com.

The disease manifests itself differently for everyone. The most common symptoms are tremors, then stiff muscles, slow movement and trouble balancing and walking. Advanced Parkinson's disease includes great difficulty walking, cognitive problems such as hallucinations and delusions and loss of independence.

Most cases occur in people 60 and older, but it can develop in people who are much younger, according to WebMD.

Parkinson's disease affects more than one million Americans and between seven to 10 million people worldwide. There are



Joe Ellington, associate of NMSU, speaks to the Parkinson's and Pesticides Committee and Dara Parker of Sen. Martin Heinrich's office, Peter Ibarbo from Rep. Steve Pearce's office and Sen. William Soules about the work NMSU Leyendecker Farms is doing without the use of chemicals and pesticides. (Andi Murphy photo)

about 60,000 new diagnoses each year in the United States, according to the Parkinson's Disease Foundation, pdf.org.

It is also the 14th leading cause of death, according to the Centers for Disease Control and Prevention.

What does that have to do with pesticides?

"There is definitely a link between pesticides and Parkinson's disease," said Nichelle Harriott, staff scientist with Beyond Pesticides, a national advocacy organization that researches the effects of pesticides on health. "There are other effects such as birth defects and cancers... These are not new findings."

The organization has built a large pesticides-induced diseases database in which Parkinson's has been added and is currently being researched, she



John Hamilton, a member of the local Parkinson's and Pesticides Committee, speaks to a group on a tour of healthy gardens that are doing well without the use of pesticides. The group organized the tour in August to show state representatives (Dara Parker for Sen. Martin Heinrich, Peter Ibarbo for Rep. Steve Pearce and Sen. William Soules) that farming can be done successfully without the use of chemicals. (Andi Murphy photo)

said.

The University of California, Los Angeles and its Center for the Studies of Parkinson's Disease has been conducting studies proving there is a link between certain chemicals in pesticides and an increase in Parkinson's disease among the population.

"This work suggests that exposure to an environmental toxicant may inhibit aldehyde dehydrogenase (enzymes that battle harmful pathogens naturally made in the brain) sufficiently to damage dopaminergic neurons and increase the risk of exposed humans developing Parkinson's disease," according to a 2012 UCLA study.

"We were wondering if this was happening in our neck of the woods because we have a lot of rural farm lands that people live in," said John Hamilton, a member of the Parkinson's and Pesticides Committee. "We came up with about 20 different pesticides that were linked with Parkinson's disease. Something like 11 are registered for use here in New Mexico."

The committee found that paraquat, maneb and ziram are registered for use in Doña Ana County. These chemicals are on UCLA's list of chemicals that have been linked to increasing the risk of Parkinson's disease, Hamilton said.

Pesticide regulation

"This is not something that has been addressed in the past," he said. "We're trying to get our state legislators and our federal delegation to recognize there is a problem that needs to be addressed."

The New Mexico Pesticide Control Act was signed into law in 1973 and was assigned to the New Mexico Department of Agriculture to administer and enforce. The department regulates pesticide use - only after they are approved by the Environmental Protection Agency - and makes sure applicators use them in accordance to the law. There are 4,900 individuals who hold pesticide applicator licenses in New Mexico, according to Katie Goetz, spokeswoman for the department.

"NMDA advocates neither for nor against pesticide use," she wrote in an email. "We make sure that applicators are up to date in their licensure and training and we monitor compliance with the law as well as investigate pesticide problems and complaints."

The department is also home to the state's Organic Program, she said.

Organic farming

In August, the Parkinson's and Pesticides Committee hosted a tour of healthy gardens in Doña Ana County. A representative from Rep. Steve Pearce's office, Sen. Martin Heinrich's office and Sen. William Soules attended and took lots of notes as Hamilton, Roberts and other committee members talked about their research and how local farms are doing well without potentially harmful chemicals.

"I thought it was really interesting and fascinating to see the organic ventures going on in the area," Sen. William Soules said.

The tour included New Mexico State University's Leyendecker Plant Science Research Center, Anthony Youth Farm and Alvarez Farm.

"I do know there's a major issue with organic farming and whether we are over using pesticides," Soules said about whether he previously knew about the link between pesticides and Parkinson's disease. "There's links and correlations. I'm not sure there's cause and effect. I'm still curious and watching for information between the link between pesticides and Parkinson's."

The committee has a long way to go if they want to see changes at the state or federal level. But it's important that they're taking the first steps and building awareness.

"At this point in time, I think it's unlikely that the state will make a law to ban it (pesticides)," he said.

"Agriculture kind of got off the tracks when commercial fertilizers were introduced to plant growers," said Joe Ellington, associate member of NMSU at Leyendecker.

Around WWI scientists developed commercial fertilizers that were heavily used to get maximum growth. This naturally attracted insects and pesticides were developed and applied.

Some early pesticides contained harmful chemicals that polluted the environment for years. Most of these toxic ingredients were banned.

"I just think, in general, you don't have to use them," Ellington said. "It's a long process to get them (plant growers) to understand what the issues are."

Ellington is an advocate for sustainable farming. He talks to local growers and helps them understand what being sustainable is and how to go about growing that way.

"It's a matter of knowing how to do it," he said. "It's precisely doable, but they haven't done it in several generations (because they have become dependent on fertilizers and pesticides)."

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By the Numbers

1 million: Americans who are living with Parkinson's disease. Men are more likely to have Parkinson's than women.

50,000 to 60,000: New cases of Parkinson's disease per year in the United States.

7 to 10 million: People worldwide who are living with Parkinson's disease.

14th: Parkinson's disease is the 14th leading cause of death, even before homicide.

\$25 billion: The costs of treating the symptoms of Parkinson's disease. One person can spend \$2,500 per year.

Source: Parkinson's Disease Foundation, Centers for Disease Control and Prevention and WebMD

Parkinson's Disease Support Group

What: Learn, listen and express your concerns in a meaningful and constructive discussion. This group also encompasses the Parkinson's and Pesticides Committee.

Where: The Community Education Room at MountainView Regional Medical Center, 4311 E. Lohman Ave.

When: 10 a.m. every third Tuesday of the month (Oct. 15)

Info: Jon Roberts, 702-217-0450, 575-556-7600, pdsgsnm.org

Parkinson's and pesticides committee

Mission: Work towards the creation of a task force at the state and national level to find a solution to this health and environmental issue.

Info: Parkinson's Disease Support Group of Southern New Mexico, pdsgsnm.org, Pascale, Tpbblue1@msn.com or 575-520-0087.