

From VOA Learning English this is As It Is.

Welcome back. I'm Caty Weaver. Today, we go to a school near Washington where meals are being served up fresh and healthy.

But first, we talk about the health of a very good friend to farmers: the honeybee. Pollution from diesel-powered vehicles could be harming the insect's sense of smell.

Bees are important to human beings. The insects pollinate about 70 percent of the world's food crops. But honeybees are in real trouble. Each year, about one-third of bee hive populations are destroyed by a mysterious disease called colony collapse disorder.

Scientists have found several reasons for the falling number of honeybees -- from poor hive care to parasitic organisms. But a new study suggests that air pollution also might be a cause. Avi Arditti reports.

Imagine a honeybee's world: the insect depends on its eyesight and sharp sense of smell to pollinate plants.

“Now, it’s faced with a sea of chemistry every time it goes out on a foraging expedition. So what it has to do is decipher and discern between those different chemicals to home in on the plants that it knows are going to give it the best reward in terms of nectar and pollen.”

That is Tracey Newman, a neurobiologist at Britain’s University of Southampton. She served as lead investigator of the new study.

She says the honeybee uses smell to find, identify and recognize the flowers they like. She says her team wanted to learn how pollutants might affect that process. Their study asks this question:

“If you have flowers and flower volatiles – flower perfumes – coming off an environment that is polluted, is the bee compromised in any way in its ability or its effectiveness to find the flowers that it’s looking for? And in particular, what we wanted to know is not the direct impact on the bee itself, but on the flower chemistry that the bee is having to find.”

Bees find these flowers by memorizing scents in the environment. The researchers used honeybees in controlled laboratory experiments. The bees were taught to link the smell of rapeseed flowers with nectar. Then, Ms. Newman says, the researchers added diesel exhaust to the mix. They wanted to see how well the bees could identify the smell in the polluted air.

“And (we) saw marked changes in the responses of the bees to that new, newly altered scent. The response rate in the bees went down to only a quarter of the original learned response.”

The scientist says nitric oxides in diesel fuel waste reacted with chemicals from the flower and changed or destroyed them. That process puts already troubled beehives even more at risk. Ms. Newman says the influence of diesel exhaust had never before been noted in connection with honeybee health, until now.

“However, if you think of a situation, which isn’t hard to imagine, where a bee is dealing with viral infections, mite infections, all the other stresses it has to deal with, another thing that makes it harder for the bee to work in its environment, so adds to that list of stresses, is likely to have detrimental consequences.”

Tracey Newman and her team have begun field studies to see if they can reach similar findings in the wild. Their report was published in the Nature journal Scientific Reports.

I'm Avi Arditti.

You are listening to As It Is, from VOA Learning English.

Now we go to Hagerstown, Maryland, where school children enjoy locally-grown fruit made with the help of local bees! The students are part of a growing movement to get schools to use local farm produce.

We recently visited the Ruth Ann Monroe Primary School during lunch. The students lined up for a serving of roast pork. The meat came from a local farm.

Jeffrey Proulx leads the food and nutrition services department for all the public schools in Washington County, Maryland.

“We’ve also got local apples. Today’s feature is a Golden, or a Yellow Delicious. This is from an orchard here in Smithsburg, from Rinehart Orchards.”

Rinehart Orchards supplies about 85 percent of the apples for the County’s schools. The business is part of a growing number of farm-to-school partnerships in the United States.

American public schools feed more than 30 million boys and girls a day. About 20 million of them come from poor families. They depend on federal money for their school meals.

Jeffrey Proulx says most schools do not cook fresh meals anymore.

“We have gone to, really, box-to-oven products. Fully processed, prepared items that are more heat-and-serve. So, we are definitely taking a stretch back to our roots, which is, actually, cooking food.”

Many experts say processed school meals are adding to the nation's childhood obesity problem. But new government rules aim to make school food healthier. Mr. Proulx says fresh foods make it easier to lower the levels of salt and fat in a child's diet.

"The way to reach those levels is to prepare it ourselves, and to really control what is in the product by sourcing it ourselves."

And buying from nearby farms also helps the local economy, says orchards owner J.D. Rinehart.

"That enables us to update our facilities, to buy equipment locally. Keeping the money right here in the region is huge, not only for us but for the people that benefit from us purchasing."

Mr. Rinehart says it also just makes good business sense.

"Your transportation cost is low. And you don't have to go to use a broker or a seller that will take a commission off of you."

Money stays in the local economy and school kids get fresh food. It is easy to see why farm-to-school programs have spread fast. In 1997, six American states had such programs. Now all 50 states include them.

But the United States is not the world leader in the movement. Carmen Burbano is with the World Food Program. She says Brazil is the biggest farm-to-school success. It is linked to the “zero-hunger” anti-poverty policy of former President Luis Inacio Lula da Silva.

“One of the cornerstones of that plan was the school feeding program. But in 2009, they realized that this program, which was costing the government quite a bit of money, could also help to connect that program with family farmers.”

The program now requires that 30 percent of school meals come from local farmers. It has been so successful that Brazil is now helping several African countries set up their own programs to help young students and farmers.

And that's As It Is for today.



I'm Katy Weaver. Thanks for listening. What would you like to hear about on our show? Let us know. Go to our website, [learningenglish.voanews.com](http://learningenglish.voanews.com). You'll find a "contact us" link on the page.