Pesticides in our air and in our bodies….

In the following pages, ten individuals talk about their lives, their work, and the levels of a pesticide called chlorpyrifos found in their bodies.

These brief interviews tell the stories of people who live near agricultural fields and who have concerns about their own health and the health of their families, especially during spraying season. Because of this concern, they monitored the air surrounding their homes and schools for chlorpyrifos, a pesticide they know is linked to negative health effects and used on the orange groves nearby.

Irma Arrollo, President, El Quinto Sol de América with residents of Lindsay, CA at a July 2006 press conference

They also conducted a study to measure the level of chlorpyrifos in their bodies, and now have joined a growing number of people in the U.S. who have information about the toxic chemicals passing through and too often staying in their bodies (see www.bodyburden.org).

In some community-based studies and in some epidemiological studies, individuals receive their own personal results from studies that test for the presence of toxic chemicals in human biospecimens. The Lindsay project adds something more: the residents of Lindsay know much of the source of their exposure.

The residents measured levels of TCP, a breakdown product of chlorpyrifos, in urine samples. TCP is considered a measure for exposure to chlorpyrifos. The residents compared their levels with average levels found in U.S. residents as determined by the Third National Report on Human Exposure to Environmental Chemicals, July 2005 (U.S. Centers for Disease Control and Prevention/National Health and Nutrition Examination Survey (see www.cdc.gov/exposurereport/). These comparisons are included in the following personal stories.

Humberto Felix Espinoza

I have worked as a mechanic in a dairy for the past three years, and before that I did landscaping work. We have one baby and are expecting another. I decided to participate in the project because I want to help the community learn more about pesticides and about the effects they have on health.

I want my family to live in a safe place, and I know it's possible to grow fruit without risking the health of people who live nearby. There are other methods that are safer, and I appreciate the work of all those who support these methods, and are trying to protect the environment.

I wish that the growers were more conscientious about the damage they do and I wish they would work to make things better, so that the next time we do a test, all the levels will be lower. Also, I would like the County Agricultural Commissioner to take immediate action if people call with problems.

Levels of chlorpyrifos metabolite, indicating exposure to chlorpyrifos

H. Espinoza: 4.4 micrograms/liter

CDC average for adults:
1.5 micrograms/liter

Safe level for pregnant or nursing mothers, as determined by U.S. EPA:
1.5 micrograms/liter

For all other healthy adults:
7.9 micrograms/liter

Ana Espinoza

I decided to participate in this project because we live near agricultural areas and I am concerned about my daughter and my family's health. We live in front of a school, and both the school and our home are near orange orchards. The Drift Catcher in our yard showed high levels of pesticides, and when I went to the doctor, he told me my levels were also high.

I would like more children, and there is evidence that babies can be born with health problems when mothers are exposed. I want to ensure my family is safe.

Sometimes I think we should move to another place far away from farming areas, but I know that this would not solve the problem and that we need to participate to make necessary changes.

I understand that we need agricultural products, but we also need authorities to ban bad pesticides from where we work and live.

Levels of chlorpyrifos metabolite, indicating exposure to chlorpyrifos

A. Espinoza:
3.8 micrograms/liter

Safe level for pregnant or nursing mothers, as determined by U.S. EPA:
1.5 micrograms/liter

CDC average for U.S. adults:
1.5 micrograms/liter

Sandra Garcia

In this area I have worked in cauliflower, broccoli, chili and cucumber fields, and in the orange groves. When I first came here, we would go into a field while it was being sprayed.The pesticides would make us cough, we would get bloody noses, and we would be working in 115 degree weather, in a sweltering, smothering toxic heat.

Now when they spray in the night, it comes into our houses and we get headaches and our throats are sore. We are scared to breathe, because our house smells of pesticides. During spraying season I get headaches, my sinuses are sensitive, and my decision-making becomes blurry. I get very angry and depressed, but I still try to continue my life working and doing the things I do as a mother and grandmother. I worry what will happen if I cannot go to work.

When I got the test result I felt kind of relieved. I had been wondering what was wrong with me, that I am 48 years old but so often feel at least 58. But now I put things together about my symptoms and spraying season and it makes sense.

I am very concerned about what the pesticide levels in my kids will do to their health, and if some of the self-destructive decisions they may have made are related to how pesticides affect them. In Poplar there is a kind of hopelessness. Maybe part of that attitude is related to how pesticides make us all feel.

Levels of chlorpyrifos metabolite, indicating exposure to chlorpyrifos

S. Garcia :
16.0 micrograms/liter

Safe level for pregnant or nursing mothers, as determined by U.S. EPA:
1.5 micrograms/liter

CDC average for U.S. adults:
1.5 micrograms/liter

Herlinda Cervantes

I have lived in Lindsay since 1987, and haven't worked in the fields for ten years, but previously I was a worker picking fruit: cherries from Stockton to Oregon, pears in Ukiah, apricots in Hollister. When I picked cherries, the plane going over us would be applying pesticides, and we would be exposed.

If I had known then what I know now, I would have protested. Sometimes my brothers would fall down in the fields because they were very sick, but no one would do anything.

I have had asthma for a long time, and I am very sensitive to pesticide exposure. I become ill easily. Now that I know more about pesticides I want to share what I know with others so that they can protect themselves, and I want agencies to fine those who use dangerous pesticides around us, and especially around children. I want the community to get more involved to support the enforcement of existing regulations. I want more protection for all of us.

Levels of chlorpyrifos metabolite, indicating exposure to chlorpyrifos

H. Cervantes:
2.4 micrograms/liter

Safe level for pregnant or nursing mothers, as determined by U.S. EPA:
1.5 micrograms/liter

CDC average for U.S. adults:
1.5 micrograms/liter

Domitila Lemus

All my seven children have gone to Sunnyside school, which is surrounded by orange groves. The school would always be calling me to say my children had rashes, or were vomiting, or had headaches. Only a fence separates the school from areas where oranges are being sprayed with pesticides. When I saw children becoming ill after they played near areas being sprayed, I complained, but we never got a response from the Agricultural Commissioner.

My husband died from cancer in 2002. We both worked in the fields for many years and I think his cancer and the cancers of many who live and work nearby are connected to pesticide spraying.

I want authorities to be conscientious and do something to protect our health. They need to implement regulations that will restrict the use of pesticides near schools and towns, and they need to phase out the most dangerous pesticides.

Levels of chlorpyrifos metabolite, indicating exposure to chlorpyrifos

D. Lemus:
1.6 micrograms/liter

Safe level for pregnant or nursing mothers, as determined by U.S. EPA:
1.5 micrograms/ liter

CDC average for U.S. adults:
1.5 micrograms/liter

Ernestina Gomez Martinez

I have lived in Lindsay for almost 5 years, working in restaurants most of that time. When I saw the doctor, he asked if my partner worked in the fields and when I said, “yes,” he asked if we separated out his clothes, which we do, and then he asked if our carpet is clean, and it is.Then he said that the levels of pesticides in my urine might be from exposure to the pesticides in the air. The first thing that came to my mind is that my baby may be affected, and then I thought about my partner working in the fields and how he might be affected as well.

A year ago my partner and I were visiting friends in their backyard, and a grower began applying pesticides about 20 feet from where we were standing. Even when the applicator saw us he didn’t stop. I live now about 1/4 mile from orange groves. My test showed high levels, and I think it’s because pesticides can move through the air into the community. I want to share my information with others in order to help make changes that will protect us and our children from dangerous pesticides.

Levels of chlorpyrifos metabolite, indicating exposure to chlorpyrifos

E. Gomez Martinez:
7.3 micrograms/liter

Safe level for pregnant or nursing mothers, as determined by U.S. EPA:
1.5 micrograms/ liter

CDC average for U.S. adults:
1.5 micrograms/liter

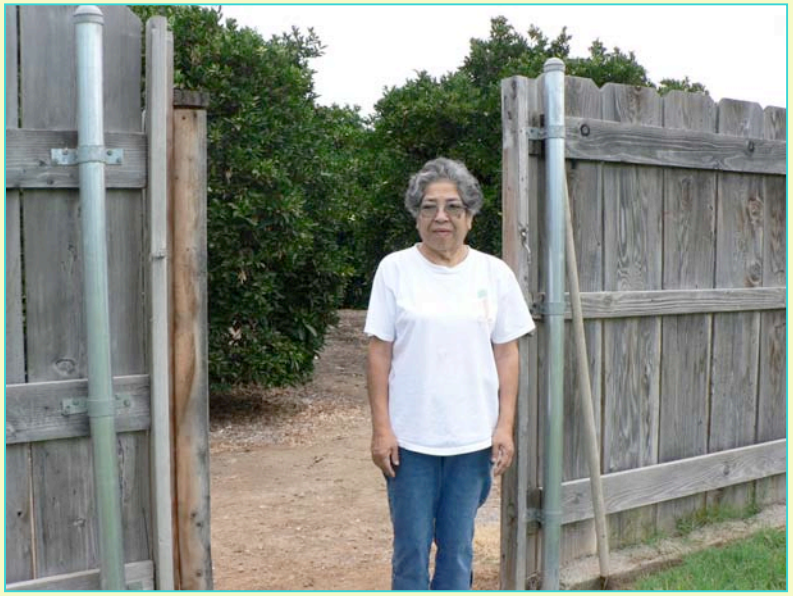
Petra Torres

I have been living in the same house for 30 years with orange groves behind the house the whole time. I have 6 children and 18 grandchildren, the majority of them living here in Tulare County.

Only once in 30 years did a grower, our neighbor, come to our home and advise us to close our doors and windows and to stay inside because of pesticide spraying. When spraying happens, we can smell it, but it's usually too late because the pesticide Is already in our house. We always try to take in our wash from the clothes line and to close all the doors and windows when we hear the noise of the tractors coming closer, but it's often too late to do so.

After spraying, sometimes my family and I have rashes, and sometimes we are very sick and need to vomit.

I wish that authorities would implement regulations that require growers to give adequate notice, and I wish there was more protection for the students at school.



Levels of chlorpyrifos metabolite, indicating exposure to chlorpyrifos

P. Torres:
1.6 micrograms/liter

Safe level for pregnant or nursing mothers, as determined by U.S. EPA:
1.5 micrograms/ liter

CDC average for U.S. adults:
1.5 micrograms/liter

Luis Antonio Medellin

When the evaluations showed that my levels are on the high side, according to the EPA, I was shocked, and I got mad as well as sad, because I cannot do anything to prevent it. The first thing that came to my mind was the thought of cancer, or asthma, or the possibility that I may not be able to have a family. How will my life be without children?

I remember that in the place where I live, there are citrus trees and many times during the summer, growers spray pesticides. We can smell it in our homes. And we all get headaches, or we experience dizziness and vomiting. We close the windows and turn off the cooler, but it can be very hot here in the summer and sometimes the temperature will be 105 degrees inside if we don't use the cooler or keep windows open.

I would like to see authorities establish buffer zones around towns, schools and the places where people work and live to ensure we are better protected. I want authorities to help growers find safer pesticides and I think that the pesticide applicators should be made responsible for the harm to people's health.

Levels of chlorpyrifos metabolite, indicating exposure to chlorpyrifos

L. Medellin:
7.0 micrograms/liter

CDC average for adults:
1.5 micrograms/liter

Safe level for pregnant or nursing mothers, as determined by U.S. EPA:
1.5 micrograms/liter

For all other healthy adults:
7.9 micrograms/liter

Luz Medellin Rodriquez

Levels of chlorpyrifos metabolite, indicating exposure to chlorpyrifos

L. Medellin Rodriguez:
5.3 micrograms/liter

Safe level for pregnant or nursing mothers, as determined by U.S. EPA:
1.5 micrograms/ liter

CDC average for U.S. adults:
1.5 micrograms/liter

We live in a trailer park in a mobile home, surrounded by orange groves. At night during the spraying season we get sick, with symptoms that wake us up. We have asked the owner of the trailer park to do something about this problem, at least let us know when spraying is going to happen, but the owner always tells us we can leave if we don't like the situation, that we should look for another place to live. But we can't afford to rent a lot in another park.

My levels are among the highest of all the participants. Of course I am concerned, but I worry mostly about my children who, like all children, are especially vulnerable to damage from pesticides.

I want the results of my tests to be publicized to awake the conscience of the authorities so they will do something to protect our health. If the pesticide found in my body is banned for use inside our homes, why is it still allowed to be used in fields right next to our homes? It doesn't make sense.

Javier Huerta

I live right next to the orchards and decided to be in the study because I have concerns about pesticides. When I learned about the levels of pesticides in my body, my mind was on my family, my neighbors, and all the people exposed to pesticides without their knowing about the potential effects to their health.

I was angry with the growers because they do not give us any notice so that we can avoid exposure. I have health problems and the doctor for the study told me that these might be related to exposures. The income of my family is low and I don't have money to go to the doctors. I have to choose between feeding my family or taking them to the doctor when pesticides seem to be making them ill.

I want to see better regulations, I want to see community education so that we can take action to protect our families. I want to see free tests for pesticide exposure and I believe somebody should pay for the damage to our health.

Levels of chlorpyrifos metabolite, indicating exposure to chlorpyrifos

J. Huerta: 3.2 micrograms/liter

CDC average for adults:
1.5 micrograms/liter

Safe level for pregnant or nursing mothers, as determined by U.S. EPA:
1.5 micrograms/liter

For all other healthy adults:
7.9 micrograms/liter