

## Focus on Pesticides

### WHAT CHEMICALS ARE BEING SPRAYED?

Pesticides are one of the few toxic substances knowingly introduced into the environment. More appropriately called biocides, pesticides are designed to kill.

Synthetic pesticides have been widely applied since the 1940s - when DDT was found to be an effective pest killer. In 1962, biologist Rachel Carson wrote *Silent Spring*, linking widespread toxic effects in the environment to pesticide use. She warned of devastating ecological and human health effects and prompted further study of the matter.

Agriculture accounts for 84% of the 2 billion pounds of pesticides used in the U.S. each year - with the most common chemicals including organophosphates (parathion) and N-methyl carbamates (aldicarb). Current pesticide use in Canada and Europe is similar to that in the U.S. Use in Latin America, Asia-Pacific, and Africa resembles U.S. use in the 1950s, when DDT and other currently banned chemicals were widely used. Non-

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### What You Need to Know About Pesticides

- \* There are more than 2 billion pounds of pesticides used in U.S. agriculture every year. (Agricultural Resource Center, "Beyond Pesticides")
- \* The Environmental Protection Agency estimates that chemicals applied to crops reach their target bug or weed only 1% of the time.
- \* Between 1980 and 1993, pesticide use grew by 10%. Since 1940, pesticide use has increased tenfold, while losses to insects have doubled. (ARC)
- \* As many as 300,000 farmworkers are poisoned by pesticides every year, and thousands die. (EPA)
- \* In Washington State between 1987 and 1990, farmworkers had a rate of systematic poisoning 3.2 times above that of all workers and a rate of toxic disease 2.2 times that for all workers. (ARC)
- \* Farmworkers suffer 5.5 chemical-related illnesses per 1,000 workers, the highest rate of any occupational group, according to the U.S. Bureau of Labor Statistics.
- \* Harvesting in the fields, workers are frequently exposed to pesticide residues on crops. Also, they often ingest pesticides when they eat, drink, or smoke in the fields. Field workers may be exposed when pesticides are sprayed close to where they are working or adjacent to their homes.
- \* Mild or early symptoms of pesticide poisoning include headache, fatigue, dizziness, nausea and diarrhea. Symptoms of severe or acute poisoning are fever, thirst, vomiting, muscle spasms, pinpoint pupils, convulsions, breathing problems, and unconsciousness or death.
- \* Children are especially vulnerable to pesticides because of their lower body weight, higher metabolism, and immature immune system. A New York study found that 1/3 of children who had worked in agriculture the previous year had been injured by pesticides. (U.S. General Accounting Office, "Hired farmworker: Health and well-being at risk")

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*To bring students and farmworkers together to learn about each other's lives, share resources and skills, improve conditions for farmworkers, and build diverse coalitions working for social change.*

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# THE PACE PROJECT

*focuses on NC farmworkers*

The PACE project is focused on Preventing Agricultural Chemical Exposure among North Carolina Farmworkers.

Researchers at UNC-Chapel Hill, Wake Forest University, and N.C. State University, led by Dr. Thomas Arcury, are spending four years studying methods to minimize farmworker exposure to harmful chemicals.

The PACE project is working together with growers, farmworkers, extension agents, and health care workers. Researchers are focusing on tobacco and cucumber farms in Duplin, Harnett, Johnston, Nash, Sampson, Wake, Wayne, and Wilson counties. The North Carolina Farmworkers' Project is assisting in identifying and interviewing farmworkers.

The stages of the study include: preliminary interviews, analysis of safety problems, development of culturally appropriate solutions, and study of the effects of the interventions designed. The study is focused on cucumber and tobacco crops because these combine intensive hand labor and chemical application - a perfect recipe for pesticide exposure.

Farmworkers are both medically underserved and heavily exposed to disease-causing environmental hazards. The PACE project hopes to improve the

environmental health and safety of farmworkers by assessing knowledge of chemicals, reasons for exposure to pesticides, and effects of actual exposure.

The \$1.17 million study, scheduled to be completed in the year 2000, is funded by the National Institute of Environmental Health Sciences.

Only a few studies have been done concerning the occupational health of farmworkers before the PACE project, so the information will be very valuable to all who work with pesticides.

For more information call Colin Austin at (919) 962-6835.

## PESTICIDE INFORMATION

Training and materials:

Occupational Safety Branch  
U.S. Environmental Protection  
Agency  
401 M Street, S.W.  
Washington, D.C. 20460  
Phone: (703) 305-7666

Health and environmental pesticide issues:

Pesticide Action Network  
North America Regional Center  
116 New Montgomery, #810  
San Francisco, CA 94105  
Phone: (415) 541-9140  
Email: panna@igc.apc.org  
http://www.panna.org/panna

Agricultural Resources Center  
115 W. Main Street  
Carrboro, NC 27510  
Phone: (919) 967-1886



# NOTES FROM THE FIELD

## The Consumer's Role

The Environmental Protection Agency has found 77 different pesticides in the groundwater of 39 states. At the same time, over 70 carcinogenic pesticides are permitted by the EPA to be applied to food. In a 1987 study, the U.S. Food and Drug Administration found pesticide residue on 40% of fruits and vegetables sampled.

The EPA lists pesticides as the third leading cancer risk in the nation, and polls show that over 90% of people are worried about chemicals in their food and water.

So what actions can consumers take to change this situation? The Agricultural Resources Center suggests that the first step is to become aware of chemicals used at home, in the water, at the office, and at school. Consumers should also be aware of what chemicals are used on the food they eat. The Pesticide Action Network suggests buying organic (chemical-free), local, and in-season produce.

Consumers have the power to reduce farmworkers' exposure by demanding that pesticides not be used in harmful ways. The United Farm Workers of America constantly fight farmworkers' exposure to pesticides. The UFW continues to lead a boycott of California table grapes. To learn about how you can support the boycott, call the UFW at (408) 761-7171.

## Special Emphasis Pesticide Inspection Program

Raymundo Hernandez died during the July 1995 tobacco harvest after becoming ill and dizzy and wandering away from a pesticide-coated field.

Raymundo's death and other tragedies linked to pesticide exposure have prompted North Carolina Statute 95-36.1(b)(3). This law mandates that the N.C. Department of Labor prioritizes inspection of those employers with a high risk of work related death, injury or illness.

The goal of the special emphasis program is to provide 24 hour response to cases of reported chemical exposure in the fields or in farmworker housing.

Complaints regarding pesticide exposure should be directed to the Division of Occupational Safety and Health at 1-800-LABOR-NC.

## Understanding the EPA Worker Protection Standards

Those who work around pesticides must be aware of safety procedures and health risks. At the same time, employers have an obligation to provide workers with adequate information.

The 1993 Federal Worker Protection Standards mandate that when a pesticide is applied, farmworkers are notified of the name of the pesticide, where it is applied, and when workers can return to the area. Special training is required for all who work with pesticides.

Farmworkers must not be sent to work where pesticides are being applied or where pesticides might drift. Also, the law requires additional training for pesticide handlers and those who work in restricted areas. Most importantly, farmworkers cannot be punished for trying to follow EPA rules. The EPA Pesticide Hotline is available at 1-800-858-7378.

## NIH Omits Latinos

Researchers at the National Institute of Environmental Health Sciences and the National Cancer Institute have chosen to omit Latinos from a \$15 million, 10 year study of the health of farmers, their families, and other workers exposed to pesticides. The National Center for Farmworker Health estimates that 85% of migrant farmworkers are Spanish-speaking Latino.

While another study involving migrant workers who are Latino is planned, those concerned with issues of environmental equity may want to write or telephone Dr. Donna Shalala, Secretary, U.S. Department of Health and Human Services, 200 Independence Ave., S.W., Washington, D.C. 20201, (202) 619-0257.

## An Early Christmas

Across the United States there are around 15,000 Christmas tree farmers employing more than 100,000 people. With over 2,000 growers in the western counties, North Carolina is ranked second in the nation in number of trees harvested. Herbicides, insecticides, and fertilizers are used on most Christmas trees, which take an average of eight years to mature. Christmas is still months away and probably the last thing on your mind this summer. But the farmworkers who work in Christmas tree farms are already hard at work pruning and spraying the trees. . .

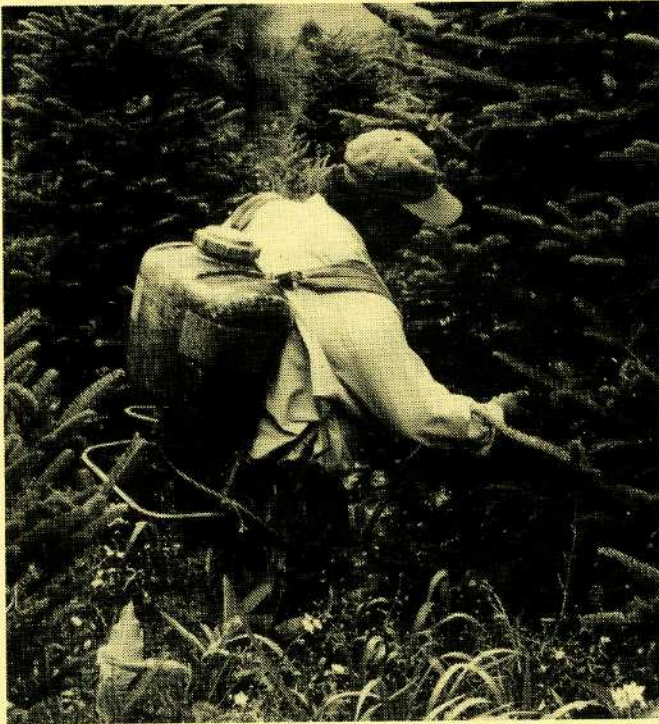


photo by Chris Johnson

I  
 HAVE  
 LEARNED  
 THIS SUMMER  
 THAT ALL  
 THOSE MERRY  
 CHRISTMASSES THAT I'VE  
 HAD, HAVE BEEN FILLED WITH  
 INJUSTICE AND  
 EXPLOITATION AND  
 SUFFERING FROM THE PEOPLE  
 WHO MAKE THOSE CHRISTMASSES BE MERRY,  
 FARMWORKERS, WHO LIVE  
 THEIR LIVES ON THE CHRISTMAS  
 TREE FIELDS, SO WE CAN ENJOY THE  
 CHRISTMAS SPIRIT, SPRAYING TOXIC, HARMFUL PESTICIDES  
 THAT ARE TAKING AWAY THEIR  
 HEALTH; LIVING IN POOR CONDITIONS FOR THOSE  
 WHO ONLY CARE ABOUT GETTING THE PERFECT CHRISTMAS TREE  
 SO WE CAN HAVE THE MERRIEST CHRISTMAS.  
 NEXT TIME YOU GO OUT AND BUY A CHRISTMAS  
 TREE, THINK OF ALL THAT YOU ARE PURCHASING: THE TREE, THE  
 PESTICIDES AND, MORE IMPORTANTLY, THE LIVES OF FARMWORKERS WHO ARE  
 HERE PURSUING  
 THE AMERICAN  
 DREAM. NOT ALL  
 OF THEM MAKE THE  
 DREAM COME TRUE  
 BUT THEY WORK  
 HARD AND HONESTLY  
 FOR THEIR FAMILIES.  
 LET'S NOT FORGET  
 THAT THIS CHRISTMAS.

Ramiro Arceo, SAF Intern 1996

### SAF Manual Available!

*Into the Fields: Mobilizing Students to Work With Farmworkers on Campuses & in Communities* by Alejandra Okie and Melinda Wiggins. Step-by-step suggestions for coordinating educational events about farmworkers on your campus and information about starting internships or working with farmworkers. Also includes sample program materials and a directory of national farmworker agencies seeking volunteers. \$15.00

Please send me the following materials:

\_\_\_\_\_ Into the Fields Manual

\_\_\_\_\_ SAF/ Farmworkers Feed the World T-Shirt ( \_\_\_M, \_\_\_L, \_\_\_XL)

\$ \_\_\_\_\_ Subtotal

+2.75 \_\_\_\_\_ Postage & Handling fee

\$ \_\_\_\_\_ Total amount due

Send check or money order to: Student Action with Farmworkers, P.O. Box 90803, Durham, NC 27708.

Name: \_\_\_\_\_ Email: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

### SAF T-Shirts Available!

Show your support for farmworkers and SAF by purchasing this natural colored, Fruit of the Loom, all cotton t-shirt. A great present too! Complete with SAF logo on front and design shown on the back. Available in M, L, XL. \$14.00

## CHEMICALS

Continued from page 1

agricultural use of pesticides in the U.S. includes wood preservatives, commercial pest control, lawn care, and government and industrial use.

Pesticides are sold as powders or suspended in inert ingredients. "Inert" means the chemical is not a pesticide itself, but these pesticide carriers are often as toxic as pesticides themselves.

### PESTICIDE EXPOSURE

Agricultural workers, including farmers, pesticide handlers and applicators are heavily exposed to pesticides, as are exterminators and lawn maintenance workers. Farmworkers are exposed to pesticide residue while working in the fields and confront drifting spray during pesticide application. As pesticides can drift for many miles depending upon droplet size and weather conditions, housing developments are often exposed to pesticides as well.

Pesticides are most commonly absorbed through the skin. Inhaling fumes allows the chemicals

to enter the body through the lungs. Ingestion of pesticides and eye contact also allow the chemical to readily enter the body.

### PESTICIDE TYPES

- *Organophosphates* are similar to nerve gasses - inhibiting nervous system enzymes. These pesticides, including parathion which is used on cotton, are responsible for most of the pesticide poisonings and deaths in the U.S. and worldwide.

- *N-methyl Carbamates*, like aldicarb are also enzyme inhibitors and are used widely on tobacco. The symptoms of exposure (fatigue, headache, etc.) appear rapidly and allow workers to recognize exposure quickly and leave the area of exposure.

- *Chlorinated Hydrocarbons*, like DDT, are less toxic but last longer. Effects are varied, including liver damage, nervousness, tremors, and nerve damage.

- *Phenolic and Cresolic pesticides*, used as wood preservatives and as underwater pesticides are highly toxic - interfering with cellular respiration. Effects of exposure include severe thirst, weakness, sweating, and hyperthermia. These can progress to coma and death if not addressed.

- *Bipyridyl Herbicides*, used to kill unwanted plants in tobacco fields, are very toxic - causing damage to the liver, kidney and lungs.

These and other types of pesticides are used widely to kill and ward off insects and weeds.

Reported deaths to producers and consumers are common. Farmworkers suffer hundreds of thousands of pesticide poisonings a year and have a 4 times greater risk of skin disease than other workers.

### CHRONIC EFFECTS

Acute effects, including death, of pesticide exposure are dramatic and tragic. Chronic effects, however, are just as big a problem. Cancer has been linked to pesticide exposure in farmworkers, farmers, among others. Low sperm counts and infertility in men have been traced to exposure to DBCP, an agricultural pesticide. Birth defects related to pesticides are rare, but studies in California have correlated exposure to pesticides to structural birth defects and to the death of the fetus. Neurotoxins in pesticides can weaken the nervous system, resulting in paralysis. Organophosphates may also cause mental and psychological effects, including mental illness, anxiety, and memory deficits.

Pesticides are dangerous chemicals and links are clear between farmworker health and pesticide exposure. Alternatives to pesticide use must be explored and supported. Studies such as the PACE Project (See page 2) will help identify ways to reduce occupational exposure to pesticides on farms.

by Ethan Leander Timm, SAF Intern 1997.  
Reference: "Pesticides," by Marion Moses. Maxcy-Rosenau-Last, *Public Health and Preventative Medicine* - 13th ed., Appleton and Lange 1992.

### Resources

"Be Safe with Pesticides" poster uses sketches to illustrate pesticide safety procedures. Free. Call the U.S. EPA at (703) 305-7666.

Fact sheets available from the National Coalition Against the Misuse of Pesticides. (202) 543-5450. <http://www.cfn.net/ncamp>

## Calendar of Upcoming Events

**August-October:** SAF Board Members and Friends will host house parties to benefit SAF. *For more information, contact Rekha Chandrabose at (919) 660-3667.*

**September 6-7:** La Fiesta del Pueblo '97, Chapel Hill High School, off Homestead Road, Chapel Hill, NC, 12-7 PM on Saturday and 12-6 PM on Sunday. The festival will include soccer, food, live music, arts and crafts, and non-profit exhibits. Rain dates: September 13 and 14. *For information, call El Pueblo (919) 932-6880.*

**September 14:** Farmworker Festival, Tri-County Community Health Clinic, Newton Grove, NC. 1-7 PM. Live music, recreational activities, children's games, and food. Free to the public. *For more information, call (919) 660-3652.*

**October 24-26:** SAF Sowing Seeds for Change Symposium, California State University, Fresno, CA. Focuses on how faculty and students can support local farmworkers and on building a network of campuses. *For details, contact SAF at (919) 660-3652.*

**November 21-23:** East Coast Migrant Stream Forum, Raleigh, NC. *To learn more, call (919) 787-7111.*

**November 22:** A Harvest of Southern Voices: A Benefit Reading and Concert for SAF. Tickets \$10, \$6 students, \$12 at the door. Chapel Hill, NC. *For details, contact SAF at (919) 660-3652.*

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