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## Colombia Flower Farms Rely on Pesticides

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By Joshua Goodman, Associated Press Writer

### Under Pressure, Colombian Flower Growers Struggle to Cut Pesticide Use

BOGOTA, Colombia (AP) -- It's probably the last thing most people think about when buying roses -- by the time the bright, velvety flowers reach your Valentine, they will have been sprayed, rinsed and dipped in a battery of potentially lethal chemicals.

Most of the toxic assault takes place in the waterlogged savannah surrounding the capital of Colombia, the world's second-largest cut-flower producer after the Netherlands. It produces 62 percent of all flowers sold in the United States.

With 110,000 employees -- many of them single mothers -- and annual exports of \$1 billion, the industry provides an important alternative to growing coca, source crop of the Andean nation's better known illegal export: Cocaine. But these economic gains come at a cost to workers' health and Colombia's environment, according to consumer advocates.

The U.S. requires imported flowers to be bug-free, but unlike edible fruits and vegetables they are not tested for chemical residues.

The tropical climate that drew U.S. flower growers to Colombia and neighboring Ecuador is a haven for pests. So growers facing stiff competition from emerging flower industries in Africa and China apply pesticides and fungicides,

some of which have been linked to elevated rates of cancer and neurological disorders and other problems.

Colombia's flower exporters association responded by launching Florverde, which has certified 86 of its 200 members for taking steps to improve worker safety and welfare. Florverde says its members have reduced pesticide use by 38 percent since 1998, to an average of 213 pounds of active ingredient per 2.4 acres per year.

"Every day we're making more progress," said Florverde director Juan Carlos Isaza. "The value of Florverde is that these best practices have now been standardized and are being adopted by the industry."

Nevertheless, 36 percent of the toxic chemicals applied by Florverde farms in 2005 were listed as extremely or highly toxic by the World Health Organization, Isaza acknowledged.

A survey of 84 farms between 2000 and 2002, partly financed by Asocolflores, the exporters' association, found only 16.7 percent respected pesticide manufacturer recommendations to prevent workers for 24 hours from re-entering greenhouses sprayed with the most toxic of pesticides.

Carmen Orjuela began suffering dizzy spells and repeated falls in 1997, while working at a flower farm outside Bogota. During the peak season before Valentine's Day, she said her employer forced workers to enter greenhouses only a half-hour after they had been fumigated.

"Those who refused were told they could leave -- that 20 people were outside waiting to take their job," said Orjuela, who quit in 2004.

Orjuela's employer, Flores de la Sabana, denied ever disregarding manufacturer-recommended re-entry times, but a 2005 toxicology study from Colombia's National University obtained by The Associated Press confirmed that Orjuela's illness was "directly related to an important exposure to potentially toxic chemical substances." A government arbiter finally ordered the company to pay her a pension equal to the \$200 monthly minimum wage earned by most workers.

Government oversight is relatively strict in the United States -- in California, each flower farm's pesticide use is available for review on the Internet. But there are no reliable statistics about chemicals used by Colombia's 600-plus flower farms, in part because only a third belong to Asocolflores, which does keep good records.

Although the industry has made huge strides thanks to Florverde, accidents continue to happen.

On Nov. 25, 2003, some 200 workers at Flores Aposentos, outside Bogota, were hospitalized after fainting and developing sores inside their mouths. Authorities determined this mass poisoning could have been caused by any number of pesticide-handling violations, but fined the company just \$5,770.

Causal links between chemicals and individual illnesses are hard to prove because chronic pesticide exposure has not been studied in enough detail. But the Harvard School of Public Health examined 72 children ages 7-8 in a flower-growing region of Ecuador whose mothers were exposed to pesticides during pregnancy and found they had developmental delays of up to four years on aptitude tests.

"Every time we look, we're finding out these pesticides are more dangerous than we ever thought before and more toxic at lower levels," said Philippe Grandjean, who led the Harvard study published last year.

Producers say they would love to go organic, especially given the high costs of pesticides. But their risks include infestations and stiff competition from emerging flower growers in Africa and China.

"The biggest hurdle to going organic is that once you're there you have to be prepared to lose your crop," said John Amaya, president of the Miami-based flower unit of Dole Food Co., Colombia's largest flower grower.

Still, U.S. consumers bought \$16 million in organic flowers in 2005, and demand is growing by 50 percent a year, according to the Organic Trade Association.

That growth has been helped by VeriFlora, a certification and labeling program launched by U.S. consumers, growers and retailers including Whole Foods Market Inc. Some 32 farms in Colombia and Ecuador have earned the VeriFlora label, which requires a transition to organic production and unlike Florverde bans more than 100 chemicals outright.

"Unfortunately, existing programs have deficiencies that would not fly in the American marketplace," said Linda Brown, vice president of Scientific Certification Systems, which runs the VeriFlora program.

Gerald Prolman, CEO of San Francisco-based Organic Bouquet.com, counts on VeriFlora-certified growers for much of his supply.

"If producers want to distinguish their flowers from the glut of cheap, chemically produced ones in the world right now they need to ensure that their farms have fully incorporated socially and environmentally responsible practices that consumers demand and are willing to pay more for," he said.

Florverde: <http://www.florverde.com>

Veriflora: <http://www.scscertified.com/csrpurchasing/veriflora/>

Harvard study: <http://pediatrics.aappublications.org/cgi/content/abstract/117/3/e546>

Farm survey: <http://www.scielo.org.co/scielo.php?scriptsci--arttext&pidS0120-41572005000300013&lngpt&nrmiso&tlnges>

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