

## When Ozone Drops, Farm Workers Step Up the Pace

By Dylan Walsh, staff writer

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Opponents of stricter regulation of air pollution typically argue that jobs would be lost if the federal government tightened limits on industrial emissions of ozone. A new study presents a counterpoint: lower ozone levels seem to increase worker productivity.

“We wanted to flip the idea of regulation on its head and view it from another perspective,” said Matthew J. Neidell, an economist and a co-author of the study, published as a working paper by the nonpartisan National Bureau of Economic Research. “Maybe pollution regulation can help jobs and economic growth.”

The issue came to the fore in early September, when President Obama announced that he would not support a proposal by the Environmental Protection Agency to tighten the federal ozone standard because it would pose too heavy a burden on businesses. The decision stunned environmentalists and public health advocates but was welcomed by industry and Congressional Republicans.

“We cannot afford any sort of costly regulation that would destroy jobs and hamstringing growth,” said the House majority leader, Eric Cantor, Republican of Virginia.

Policy makers routinely counter that regulating ozone smog yields abundant health benefits like reduced hospitalizations and mortality rates. But Dr. Neidell, an associate professor at Columbia University’s School of Public Health, set out to investigate whether lower air pollution might also affect job performance.

It took five years – including one dead end monitoring the performance of the Los Angeles Dodgers relative to ozone levels – for him to settle on a suitable testing environment: a farm in California’s Central Valley.

With his co-author, Joshua S. Graff Zivin, he used the farm’s electronic payroll system to collect eight months of productivity data on 1,600 workers over two growing seasons. Because the workers are paid by piece rate on a variety of crops, there is an incentive for them to work hard. Figures on their daily harvest were related to hourly fluctuations in ozone, as measured by three nearby air quality monitors.

The study found that on average, when ozone levels declined by 10 parts per billion — approximately the level of tightening proposed by the E.P.A. — worker productivity climbed 4.2 percent. Extrapolating from that result, an across-the-board reduction of 10 parts per billion might yield a \$1.1 billion annual increase in economic value in the nation’s agricultural sector.

The authors conclude that regulation of pollution can be considered an investment in human capital, “and thus a tool for promoting, rather than retarding, economic growth.”

Dr. Neidell was quick to point out that these results cannot be generalized from agricultural work to the full spectrum of outdoor workers, who make up 11.8 percent of the country’s labor force. And agricultural workers account for less than 2 percent of the nation’s workers, so the findings may not dramatically alter the cost-benefit calculations of ozone regulation.

Still, the study offers a new measure of pollution costs absent from the policy-making calculus.

And the finding could prove more significant for developing nations. “In other countries, where agriculture is still a large segment of the economy, the productivity story holds much more weight,” Dr. Neidell said.

The article, which first appeared in April, is currently being revised.

The next step is to find a similar case study on the productivity effects of microscopic particulate matter, one of the most common pollutants alongside ozone, Dr. Neidell said. Given that physiological responses to particulate matter are similar to those for ozone, “there is good reason to believe it will have similar effects,” he said.

Particulate matter also drifts indoors, whereas ozone does not, which raises new questions. “If I’m sitting at my desk working at my computer” when outdoor pollution is heavy, he said, “does my productivity change?”

## **First burning ban of the season for Fresno County**

By Mark Grossi, Staff Writer

Fresno Bee, Wednesday, Nov. 9, 2011

You can't light up wood in your fireplace or wood-burning stove Thursday in Fresno and Stanislaus counties. It's the first burn ban of the season in Fresno County.

As a quick review, the bans are called by the San Joaquin Valley Air Pollution Control District because of poor air quality. They apply to burning wood, pellets and manufactured fire logs, as well as outdoor fire pits and chimineas. You can be fined if you're caught burning on a ban day.

The Check Before You Burn program runs from November through February. The idea is to cut back wintertime soot, chemicals and other tiny specks. Forecasts are issued by county.

Daily wood-burning forecasts are issued at 4:30 p.m. They're available [here](#). By phone, 1-800 SMOG INFO (766-4463). Or you can subscribe to the district's daily air-quality forecast [here](#).