

VOC Regulations and Implications to IPM

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UC Statewide IPM Program*



Air Quality Issues in California

- Dust: Particulate Matter, PM₁₀ & PM_{2.5}
- Volatile Organic Compounds (VOC) and nitrogen oxides (NOx) react with sunlight to form ozone
- Many fumigants and pesticide inert ingredients are VOCs

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LOCAL NEWS
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MARY KENNEDY

30 years of talk hasn't cleared air

Nearly 100 people gathered at the San Joaquin Valley Air Pollution Control District's Wednesday public hearing to talk about dust and how to reduce it before the federal government penalties come into effect. They talked so much that the meeting was held over to today to give board members a chance to talk some more, maybe even delay the decision a few weeks.

More talk, more delays. More talk, more school and churching violators. More dust, breathers. What's left to talk about?

Just ask Bruce Morris. He sat on the committee that came out with the Valley's first air-quality study 30 years ago, he helped plan the Wednesday's meeting and gave everybody a ribbing-telling. "Why haven't industry and agriculture sat down and worked out a solution yet?" he asked.

Why indeed? With harsh federal penalties looming and a two-month deadline starting the board on the face to enact dust regulations, industry and agriculture were holding their just-launched study on the most serious of particulate matter in their businesses. What took so long?

No one said anything surprising — except maybe when farmers asked the board to take

LATE FINAL EDITION

The key to finding the right couch is a little bit of patience and a clear sofa goal.

HAGENS

Board takes up dust rule today

Session added to OK nine changes and prepare for approval.

By MARK GROSS
AND BARBARA ANDERSON
THE FRESNO BEE

The San Joaquin Valley's dust rule — already four years late — has hit a fast track, with the local air board adding a hearing this afternoon to accept a flurry of changes and prepare for approval in two weeks.

That San Joaquin Valley Air Pollution Control District board, however, has been of concern Wednesday, including conflicting advice from industry groups and community representatives. Industry said slow down to make the rule reasonable; environmentalists said move ahead to make the Valley safe.

Bulldogs
Charles
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in front of Fresno City Hall after the car swerved into the hall doors, poli

at a woman who
gh downtown.

drove into the doors and then

Police, drivers and passersby
prompted dozens of people to
spill out of downtown Mar-
keta Mall office buildings.
They stared in disbelief as police closed P Street and par-
adegoers attended to Laterra.

Several City Hall employees

and west home early.

out delayed, and diverted a news

checkered to announce Jerry Dyer's

police chief. It was held at the

Fresno police headquarters rather

City Hall.

Police set POL02, Page A20.



Rene Marie LaCentra, 43, who was hit Wednesday, is carried away from the scene. She was reported in serious

EPA wants Valley farmers to seek air pollution permits

By MARK GROSS
THE FRESNO BEE

The EPA is expected to appear this week in a federal Register notice, giving the agency and San Joaquin Valley Air Pollution Control District officials a chance to propose approval of the San Joaquin Valley Air Pollution Control District rule that contains the exemption.

The agency says the rule will strengthen the district overall, but the farm exemption isn't acceptable. Similarly, the EPA will approve another rule but disapprove some technical parts of it.

Please see POLLUTION, Page A20.

JIM COVET/2011

LATE FINAL EDITION

Levy case revived as Rep. Gary Condit is issued a subpoena by a grand jury.

By MARK GROSS
THE FRESNO BEE

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By MARK GROSS
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By MARK GROSS
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Federal officials and farmers the

month previously reached a breakthrough

compromise in a contentious dust regulation, clearing the way Thursday for local air district approval of the rule and an end to years of debate.

But Thursday's decision didn't come without contention. The group left out of the recent federal talks objected to the San Joaquin Valley Air Pollution Control District's plan. Construction industry spokesman Bill Sparks said the compromise was a surprise.

"This thing is just about as clear as mud to me," said Sparks, representing the Building Industry Coalition. "The

resolution

Much
Harry P
follows box
almost

IS

AIR QUALITY

EPA sued for delay in Valley

Agency is failing to protect the public, groups allege.

By MARK GROSS
THE FRESNO BEE

Community, medical and environmental groups sued the federal government Thursday over the San Joaquin Valley's 10-alarming years of cleanup delays in one of the nation's most fouled air basins.

"There is no region in California where the U.S. Environmental Protection Agency has more abandoned its statutory duty to protect the breathing public than in the Valley," the introduction of the complaint says.

The lawsuit, filed in U.S. District Court in San Francisco by the environmental legal firm Earthjustice, says the EPA failed to make major decisions to adopt or reject local-cleanup plans dating back as far as 1994.

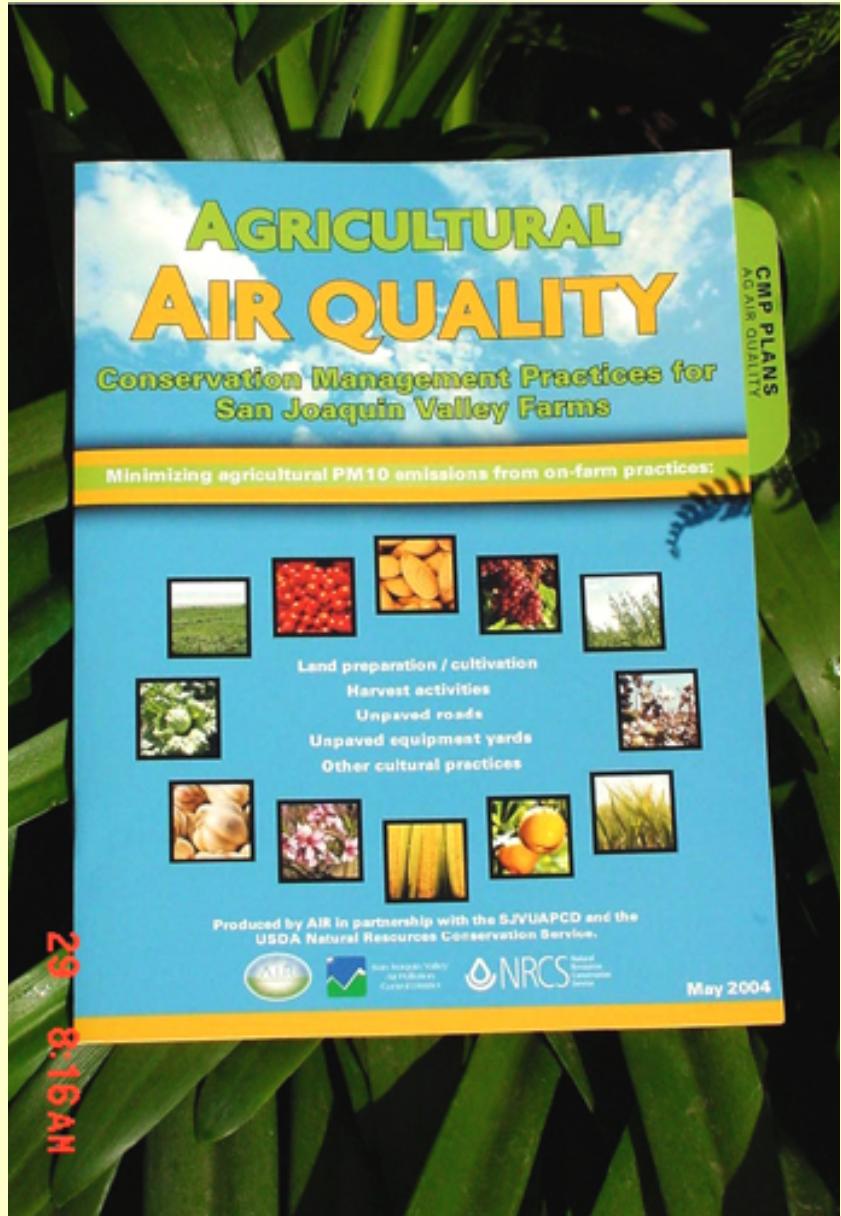
Environmental lawyers also seek federal injunctions for cleanup rules granted to industries, presumably companies west of Interstate 5 in Kern, Kings and Fresno counties.

EPA officials agreed they have been largely dealing with a patchwork situation, in dust and soil. Soil submitted by the San Joaquin Valley Air Pollution Control District in 1997, EPA will never adopt with the plan, officials said, but the timetable is uncertain because the issue will be in court.

"Earthjustice is right," said Deborah Jordan, issue c
Please see LAW/SUIT, Page B1

Air board

CONSERVATION MANAGEMENT PRACTICES (CMP)





**FARMERS DO THEIR SHARE
TO CLEAN THE AIR**



*America's Private Lands
Conservation Agency*

NO TILL FARMING

WWW.SJCRCD.ORG



**SJCRC
SJCRC
SJCRC**

Ozone & 1994 SIP Requirements

- VOCs from pesticide applications contribute to ozone (EC, fumigants)
- Ozone regulated under State Implementation Plan (SIP) due to Clean Air Act
- If SIP requirements are not met by deadlines:
 - Federal Implementation Plan (FIP) imposed
 - Loss of federal highway funds

**DESIGNATION**

Attainment

Unclassifiable / Attainment

Nonattainment Classification

Extreme - 20 years

Severe - 17 years

Severe - 15 years

Serious - 9 years

Moderate - 6 years

Marginal - 3 years

Transitional **

Sources: 40 CFR 81

SEC. 303 (AZ), 305 (CA)***,

312 (HI), 329 (NV), 352 (Amer. Samoa)****, 353 (Guam) and 354 (N. Mariana Is.)**** (JUL 1 03).

***San Diego: FR V68 P37976 (JUN 26 03).

***Santa Barbara: FR V68 P40789 (JUL 9 03).

***San Joaquin Valley: FR V69 P20550 (APR 16 04);

***East Kern: FR V69 P21731 (APR 22 04).

Notes: * San Francisco Bay Area is designated 'Not Classified / Moderate' under 23 U.S.C. Sec. 104(b)(2) and has a 2006 attainment deadline

** Clean Air Act Section 185A Area

**** American Samoa and Northern Mariana Islands (not shown on map) are designated Unclassifiable/Attainment'



GUAM

HAWAII



REGION IX

NATIONAL AMBIENT AIR QUALITY STANDARDS

ATTAINMENT DESIGNATIONS

FOR

OZONE

1-HOUR STANDARD



50 0 50 100 150 200 Miles

June 21, 2004

VOCs: Difficulty in Achieving Ozone Standard

About 30% VOC reduction of all sources needed to achieve 1-hour ozone standard in SJ Valley

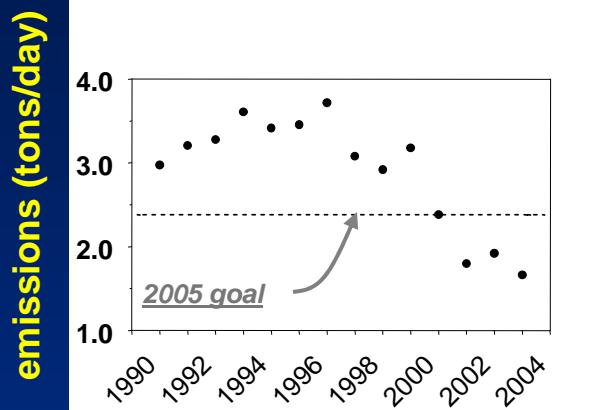
Category	% of 2004 Emissions
LIVESTOCK WASTE (DAIRY CATTLE)	9.6
LIGHT AND MEDIUM DUTY TRUCKS	9.1
LIGHT DUTY PASSENGER CARS	8.3
PRESCRIBED BURNING	7.5
OIL AND GAS PRODUCTION	7.4
PESTICIDES	6.3
CONSUMER PRODUCTS	6.2

VOC Calculations

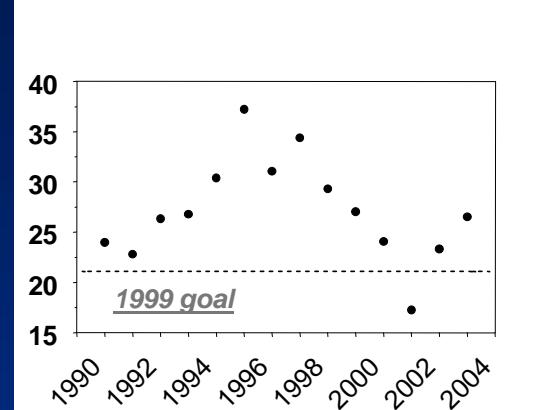
- VOC emission from a pesticide product
= emission potential x amount of product
- Amount of product determined from
pesticide use reports (PUR)
- May 1 – Oct 1 (peak ozone period)
for each year

1990-2003 May-October Pesticide VOC Emissions

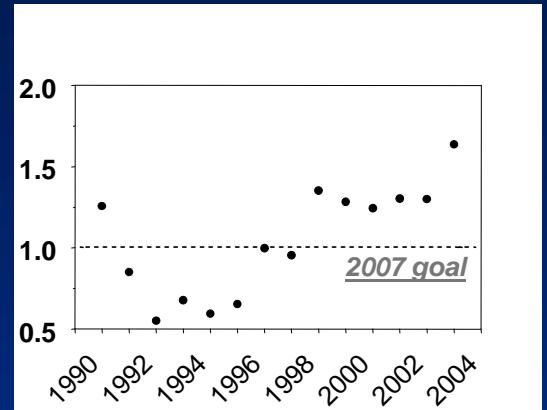
Sac Metro Area



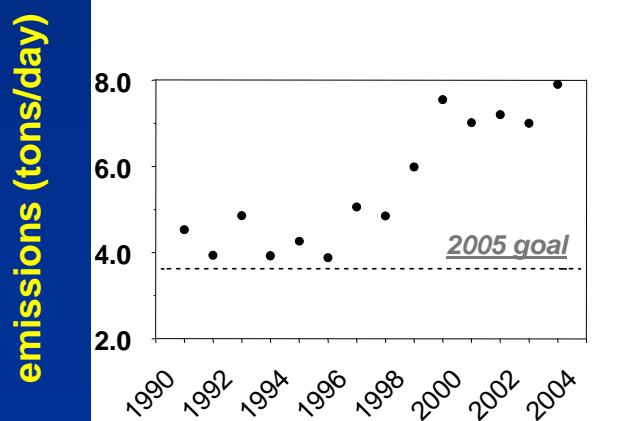
San Joaquin Valley



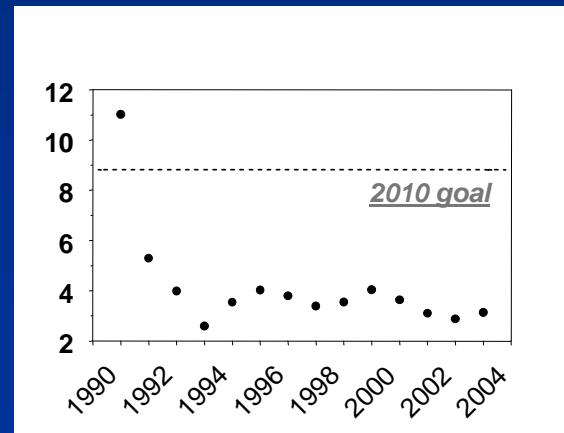
Southeast Desert



Ventura



South Coast



1994 SIP Requirements

- Pesticide VOC emissions must be reduced by the following amounts of the 1990 base year:
 - Southeast Desert: 20% by 2007
 - Ventura: 20% by 2005
 - San Joaquin Valley: 12% by 1999

30% more to meet new 8 hr standard!

DPR and ARB Sued: Regulatory Actions

- DPR has begun to investigate reformulation of liquid products
 - Establish a VOC emissions limit (20% emissions potential (EP)?)
 - Primarily emulsifiable concentrates
- Could affect hundreds of products

The VOC Issue: Focus on SJV

In SJV, about 50% of VOCs from fumigation

27% from metam sodium

14% Telone

- **40% from EC formulations of pesticides**
(e.g., Lorsban, 9%)
- **Southeast Deserts & Ventura >75% fumigant**

SJV Top Contributors by Crop

- About 18% carrots (fumigation)
- 13% cotton (e.g., Lorsban, an EC)
- 10% almonds (EC and fumigants)
- 5% Grapes (EC, giberrellins, fumigants)
- 5% Citrus (EC, giberrellins)
- 5% Potatoes (fumigants)

What is UC doing about it?

- Reductions in uses of EC & emission potentials of ECs wherever possible (gibberellins in citrus?)

Change timing of fumigant applications?

- Reduce dependence on fumigants, e.g.,
 - strawberries (Ventura, SE desert)
 - carrots (SJV, SE desert)

Carrots

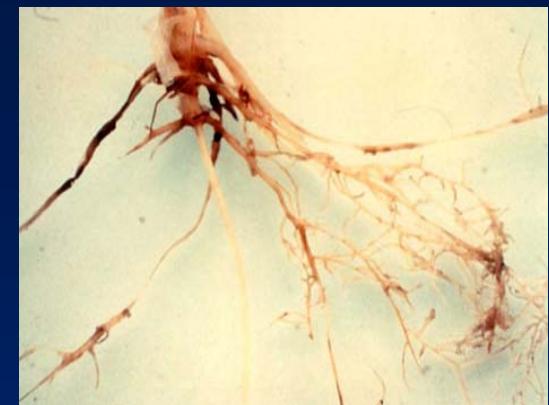
- Fumigation for control of nematodes, diseases
 - Few alternative controls,
 - Need sampling for when fumigation is needed (esp., diseases)
 - Contain the fumigants better (water seals)

Nematodes: Host Plant Resistance

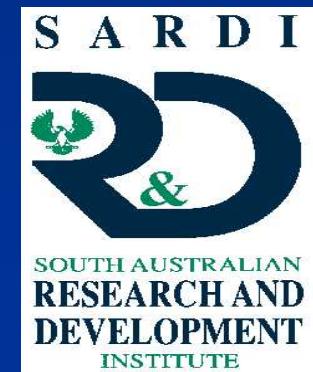
Imperator 58
(Susceptible)

8524B
(Resistant)

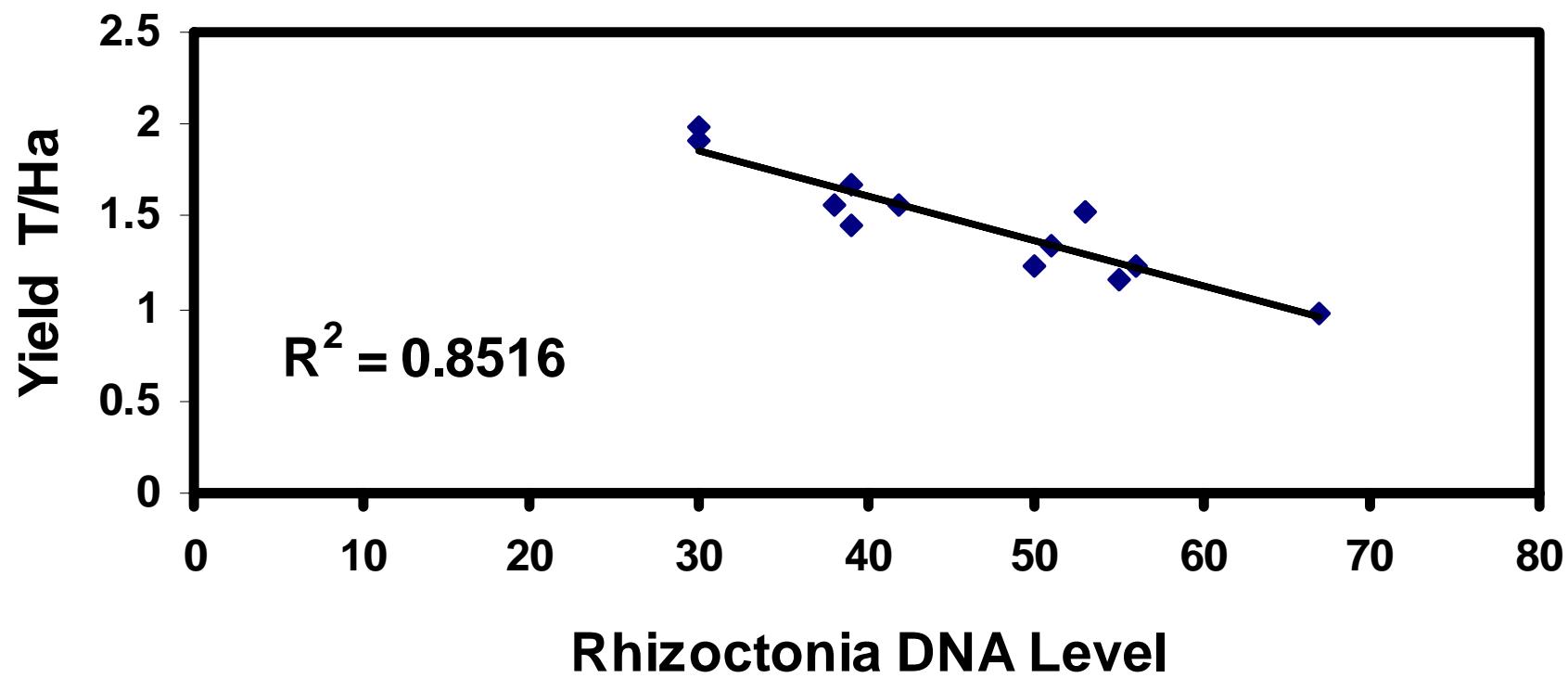




Quantitative detection of soil-borne plant pathogens by DNA sampling



Yield response to Rhizoctonia



Relevance to the Rest of US

--Role of IPM in addressing air quality

--Reformulation driven by California Dept of Pesticide Regulation?