



California Environmental Protection Agency
Department of Pesticide Regulation

Pesticide Air Monitoring Network

August 20, 2009

Pesticide Registration and Evaluation Committee

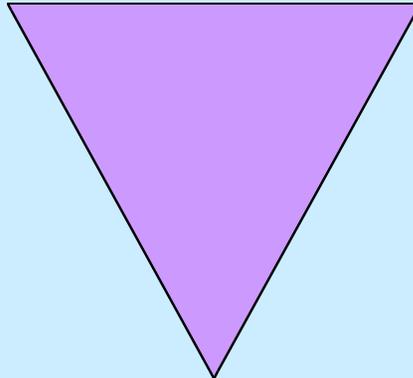
Email during meeting: precomments@cdpr.ca.gov

Background

- State law requires DPR to
 - Continuously evaluate pesticides
 - Protect public health
 - Protect the environment
- Air network will provide data to evaluate and reduce pesticide hazards to the public

Key technical issues

**How many samples?
How often should we sample?**



**How many places
should we monitor?**

**Which pesticides
should we monitor?**

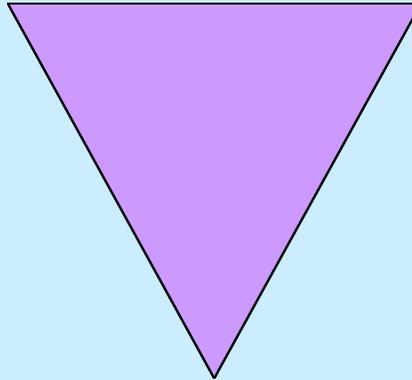
Proposed sampling plan

- Based on analysis of Parlier data
 - 1 or 2 monitoring locations in each community
 - 1 or 2 samples collected each week



Key technical issues

How many samples?
How often should we sample?



How many places
should we monitor?

**Which pesticides
should we monitor?**

How should we select pesticides?

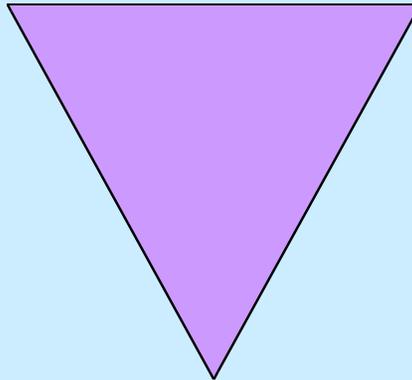
- Propose to prioritize pesticides based on
 - Use
 - Volatility
 - DPR risk assessment priority
 - Feasibility of including several pesticides in single method
- Pesticide ratings updated and differ by region based on regional use

Options for number of pesticides

- Pesticide Monitoring Method 1 (Parlier Method):
about 25 pesticides included in DPR's Parlier method
- Pesticide Monitoring Method 2 (VOC Method):
about 4 pesticides included in volatile organic compound method
- Monitoring methods that detect a single pesticide
 - Methyl isothiocyanate (MITC)?
 - Chloropicrin?
- Other pesticides?

Key technical issues

How many samples?
How often should we sample?



How many places
should we monitor?

Which pesticides
should we monitor?

Regions that have been suggested for monitoring

- DPR revised the proposed process to select communities due to number regions suggested
 - San Joaquin Valley
 - Sacramento Valley
 - Salinas Valley
 - Watsonville/Pajaro area
 - Napa Valley
 - Imperial Valley
 - Coachella Valley
 - San Diego County
 - Ventura County

Five candidate regions for monitoring

- Regions include top 10 counties and 17 of top 20 counties for reported use, 2005-2007
- All regions except North Central Coast do not comply with some federal air quality standards
- Napa Valley and San Diego not high use areas



Proposed factors for selecting communities – step 1

- Select 1 to 3 regions for monitoring based on
 - Weather patterns
 - Low wind speed
 - Consistency of wind direction
 - Use of pesticides included in monitoring
 - Drift illnesses?

Preliminary evaluation of regional weather patterns

Regional wind speed

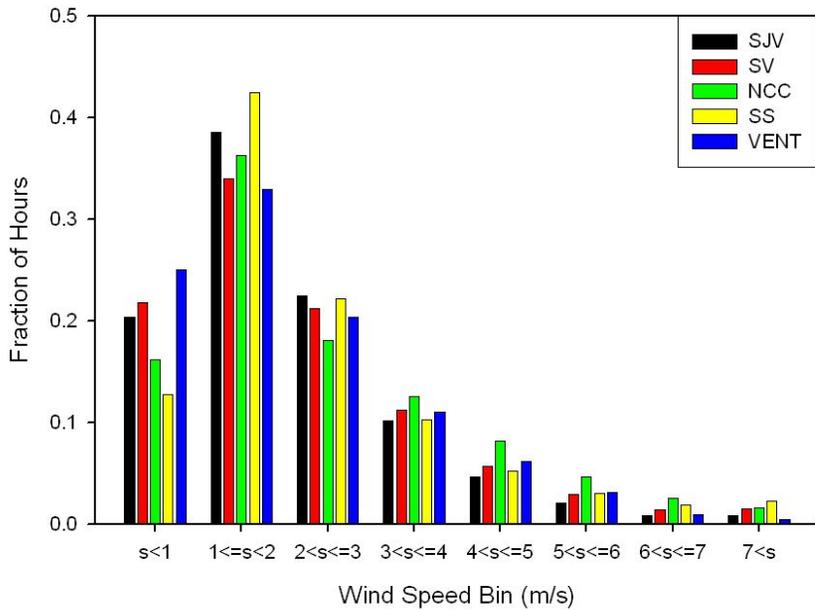


Figure 1. Distribution of wind speeds amongst selected non-attainment areas.

Regional wind direction

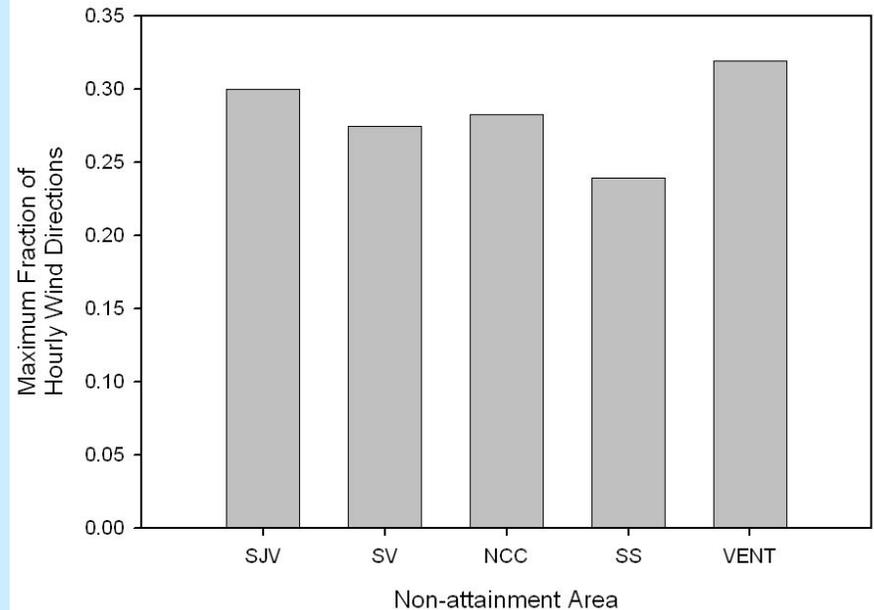


Figure 2. Average maximum fraction wind direction.

Preliminary evaluation of regional use data (2005-2007)

Region	Use of Pesticides in Parlier Method (lbs/mi ² -yr)	Use of Pesticides in VOC Method (lbs/mi ² -yr)
North Central Coast	117	2,280
Sacramento Valley	121	190
Salton Sea	83	297
San Joaquin Valley	305	1,084
Ventura	75	3,562

Preliminary evaluation of drift illness data (2005-2007)

Region	Reported Illnesses (number/mi ²)	Reported Episodes (number/mi ²)
North Central Coast	0.0835	0.00388
Sacramento Valley	0.0058	0.00139
Salton Sea	0.0036	0.00211
San Joaquin Valley	0.0147	0.00258
Ventura	0.0260	0.00489

Proposed factors for selecting communities – step 2

- Select 2 to 5 communities within the selected regions for monitoring based on
 - Use of pesticides included in monitoring
 - Characteristics of people in community
 - Other criteria

Proposed factors for selecting communities – pesticide use

- Use of pesticides included in monitoring near the community
 - Pesticide use within 1 mile of community
 - Pesticide use within 5 miles of community

Proposed factors for selecting communities – demographic factors

- Characteristics of people in the community
 - Number of people less than 18 yrs old
 - Number of people greater than 65 years old
 - Number of people greater than 5 yrs old with disabilities
 - Number of Hispanics

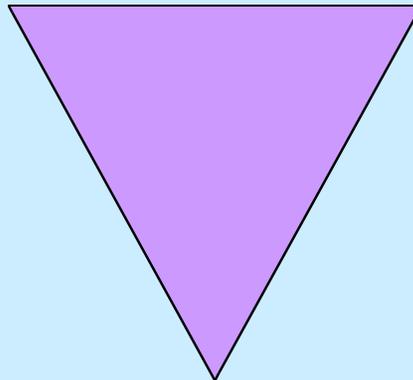
 - Number of non-whites – propose to drop
 - Family income – propose to drop

Additional considerations for community selection

- How should different criteria be weighted?
- Must select communities that have a suitable monitoring location
- Consider communities with existing monitoring, related studies
- Need geographic distribution of communities to monitor different cropping and pesticide use patterns

Summary of air network options

**1 to 4 samples each week,
each community**



**2 to 5
communities
monitored**

**2 to 4 monitoring
methods
(28-35 pesticides)**

Questions, comments, additional information

- DPR web site: www.cdpr.ca.gov
 - Select “Air” under Quick Finder
 - Select “Air Monitoring Network”

- Lead staff

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