

# California's Pesticide Use Reporting System (PUR)

Larry Wilhoit

November 9, 2015

# Outline

- 1 Description of the PUR
- 2 Data Access
- 3 Data Quality
- 4 Strengths and Limitations
- 5 Pesticide use trends
- 6 Conclusion

# History of the PUR

- California first required limited reporting of pesticide use by **1950**.
- The PUR database contains records starting in **1974**.
- Current full use reporting system started in **1990**.
- The PUR database contains 2.5 to 3.6 million records each year since 1990.



# What is Reported

- All pesticide applications in California **production agriculture** must be reported to the appropriate County Agricultural Commissioner's office.
- All pesticide applications made by **commercial pest control businesses** must be reported.
- **The exceptions:** home and garden uses and most institutional uses are not reported.



# Two Types of PUR Records

## Production agricultural applications

- Applications to agricultural fields
- California defines agriculture broadly to include forests, parks, rangelands, turf
- Each record in the PUR refers to one application

## Monthly summary reports

- All other uses by commercial applicators (post harvest, landscape, structural)
- Each record refers to total use of a pesticide during each month on a site in a county by the applicator

# Data Collected for Production Agricultural Records

- Pesticide product used (its name and EPA registration number)
- Amount of product used, in gallons, pounds, or other units
- Crop treated
- Area of the crop planted
- Area of the crop treated
- Date of treatment
- Geographic location of the treatment (to a square mile)
- Grower or operator identifier
- Field identifier
- Method of application (by air, ground, or other method)

# CalAgPermits

- In 2011 a new PUR/permitting system was implemented: CalAgPermits.
- This system is a comprehensive tool for counties to manage pesticide permit and use report data with integrated mapping.
- It is fully web-based.
- Use reports can be submitted using online forms or via a variety of commercial software products.

# Where to Get PUR Data

- PUR Annual Report  
([cdpr.ca.gov/docs/pur/purmain.htm](http://cdpr.ca.gov/docs/pur/purmain.htm))
- CalPIP ([calpip.cdpr.ca.gov](http://calpip.cdpr.ca.gov))
- Entire database ([ftp://pestreg.cdpr.ca.gov/pub/outgoing/pur\\_archives/](ftp://pestreg.cdpr.ca.gov/pub/outgoing/pur_archives/))
- Department of Public Health  
([www.ehib.org/tool.jsp?tool\\_key=18](http://www.ehib.org/tool.jsp?tool_key=18))
- UC Davis (Minghua Zhang's lab)  
([ziram.lawr.ucdavis.edu/PURwebGIS.html](http://ziram.lawr.ucdavis.edu/PURwebGIS.html))
- Pesticide Action Network  
([www.pesticideinfo.org/Search\\_Use.jsp](http://www.pesticideinfo.org/Search_Use.jsp))
- Special request to DPR



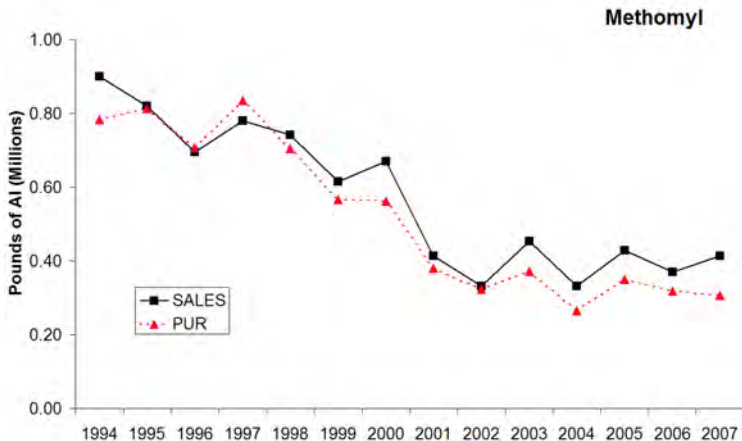
# Importance of Error Screening

- It is critical that the PUR be as accurate and complete as possible.
- Even a few errors can have large effects on an analysis.
- The PUR is screened for about 40 kinds of errors.
- Error rate is less than 0.5%.
- Probably 80 to 90% of actual use is reported.



# PUR vs Sales Data

## Methomyl



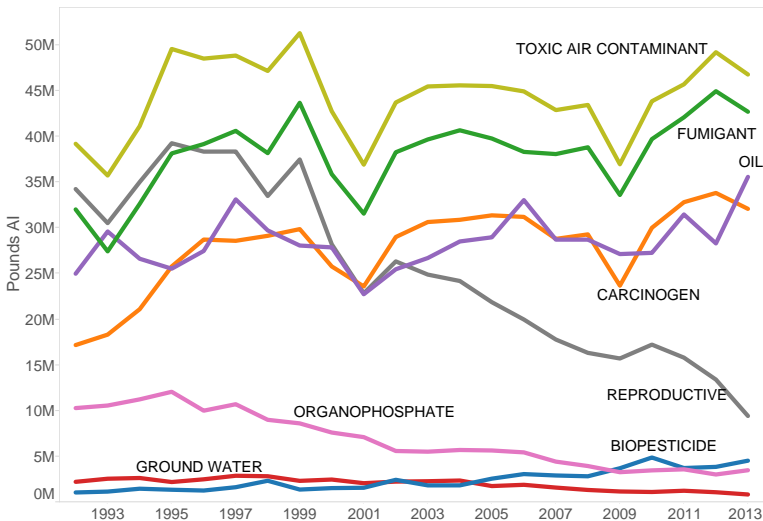
# Strengths of PUR

- PUR data includes detailed records of each agricultural application.
- Data are obtained from a census not just samples.
- Data are available for every year since 1974.
- Agricultural use is known to within a square mile section.
- Data can be linked with many other databases with chemical, environmental, and health properties of pesticides.

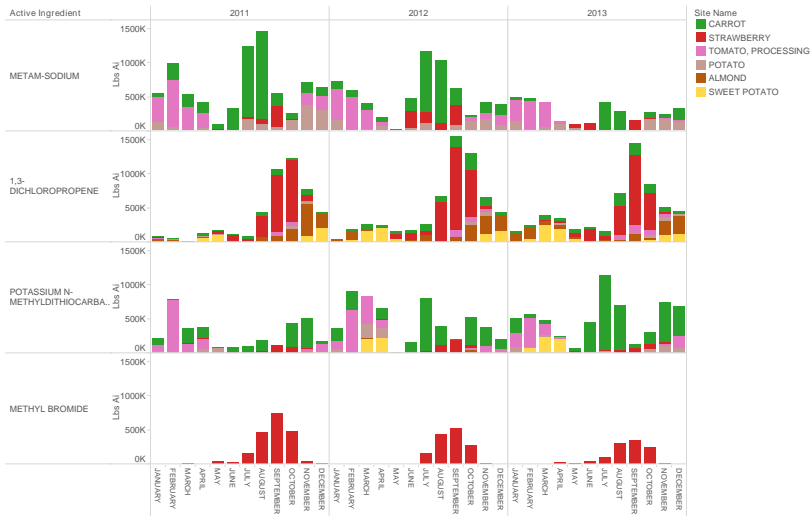
# Limitations of the PUR

- Does not include most applications to non-agricultural sites or to animals
- Non-agricultural records are monthly summaries by county
- No pest information
- No information on person or business making agricultural applications

# Pounds of AI in Different Categories by Year



# Pounds of Major Soil Fumigants by Year, Month, and Crop



# Conclusion

- The PUR is a valuable source of high quality and detailed data on pesticide use over the last 40 years
- The PUR is maintained by a wide range of state and county agencies and private companies
- The PUR can be used for a wide range of purposes
- There are limitations in the data, such as lack of pest information and incomplete urban pesticide data

# Questions?

