California Environmental Protection Agency
Department of Pesticide Regulation

Update on 1,3-Dichloropropene

March 21, 2014

Pesticide Registration and Evaluation Committee

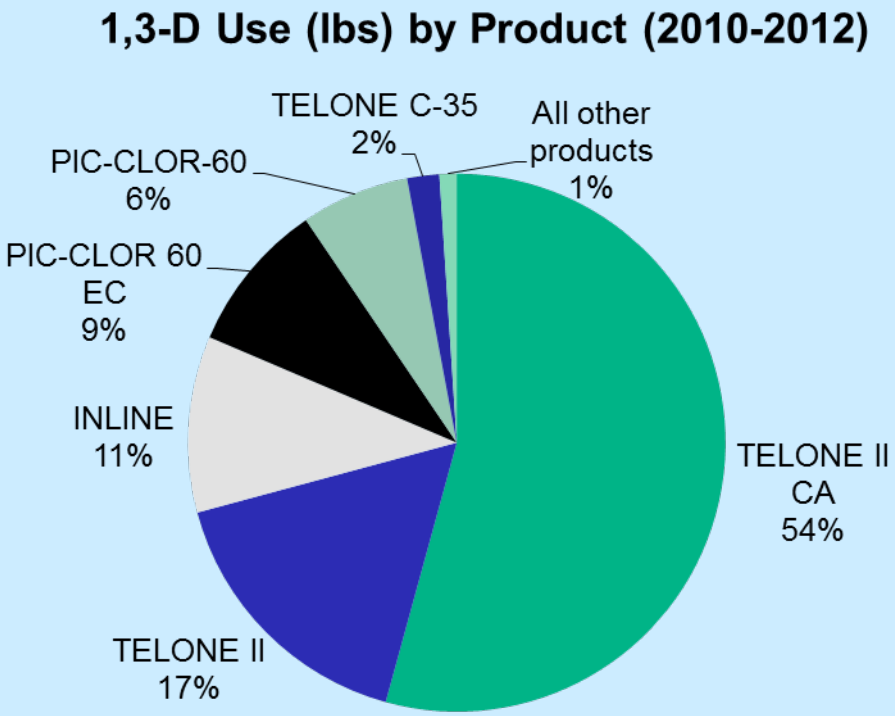
Email during meeting: preccomments@cdpr.ca.gov

1,3-D background

- 1,3-D is a pre-plant soil fumigant effective against many pests, applied by tractor shank injection or through drip irrigation systems

1,3-D background

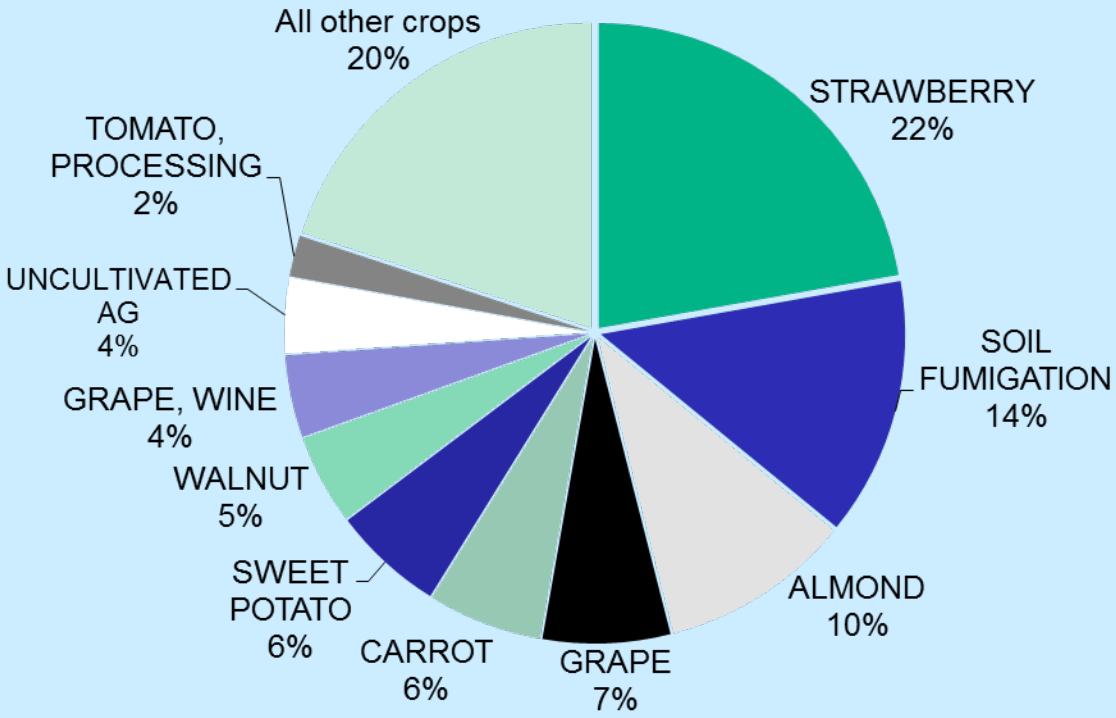
- Dow AgroSciences (DAS) is the main registrant
- Some products also contain chloropicrin



1,3-D background

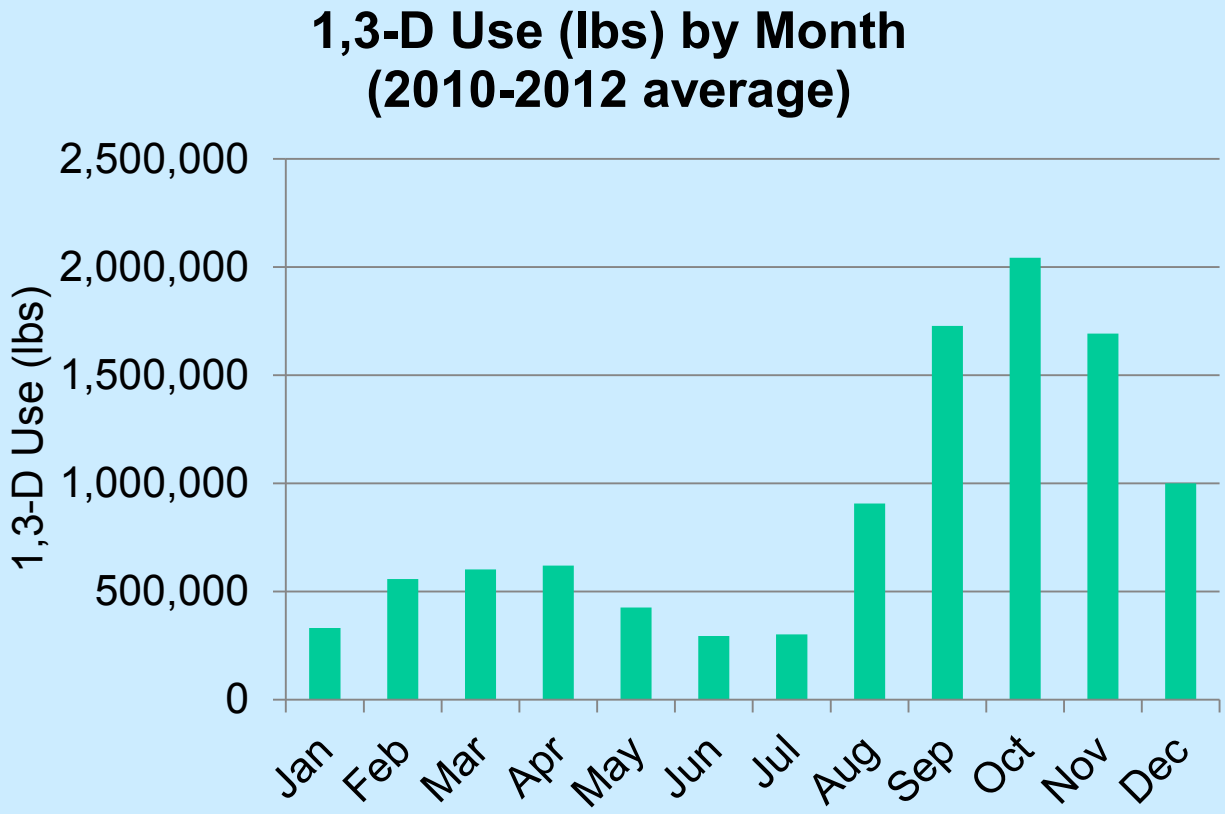
- 1,3-D is a restricted material – permit and certified applicator required
- Used prior to planting several crops

1,3-D Use (lbs) by Crop/Site (2010-2012)



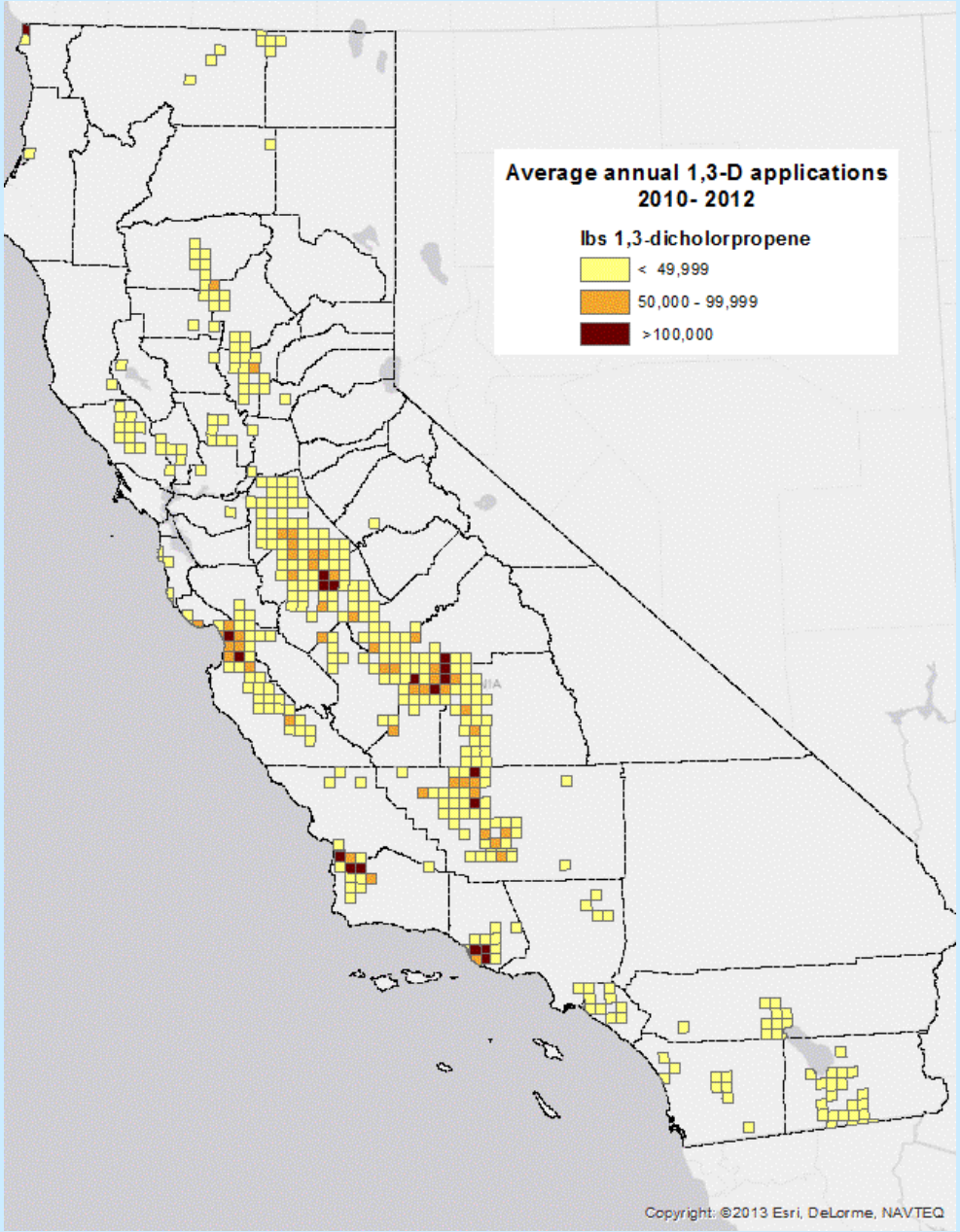
1,3-D background

- Peak use occurs in the fall



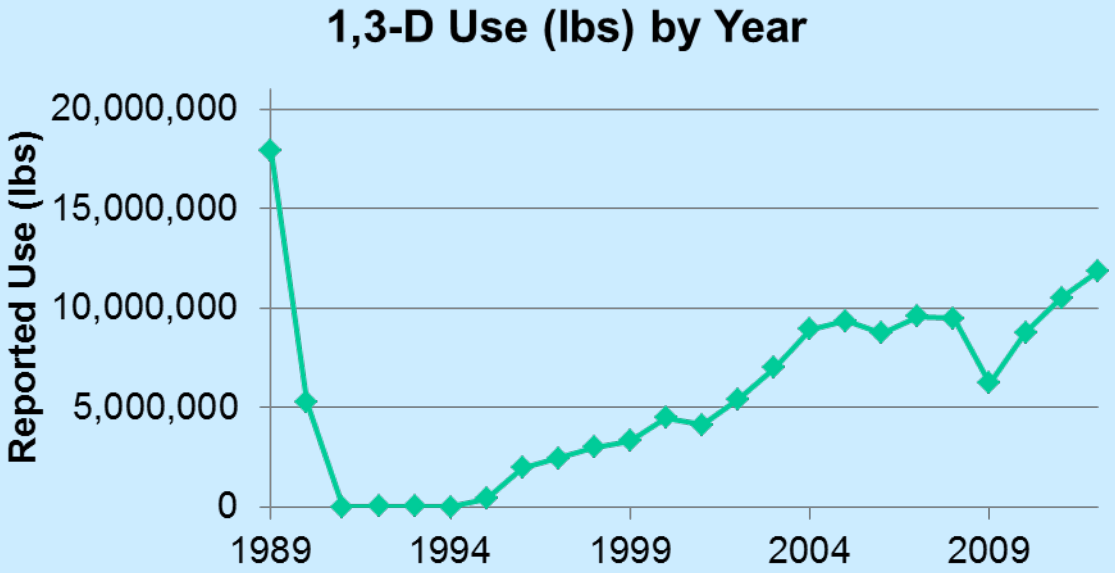
1,3-D background

- Figure shows use by township (6x6 mi area)
- 1,3-D was used in 426 townships in 2010-2012
- Highest use in Central Coast and San Joaquin Valley



1,3-D regulatory history

- 1990: DPR and ag commissioners stopped use after monitoring by ARB showed possibly high cancer risk
- 1995: 1,3-D reintroduced with additional restrictions
- 2001: DPR set a goal for cancer risk of no more than 5% probability of 1 excess cancer per 100,000 people



1,3-D current DPR requirements

- Permit conditions prohibit 1,3-D fumigations within 100 feet of structures occupied at any time for 7 days following fumigation
- CA Management Plan for 1,3-D requires DAS to administer a township cap program
  - Limits within each township (6x6 mile area)
  - Allocation of 90,250 lbs/yr since 1995, with unused amount “banked”
  - Maximum use of 180,500 lbs/yr, if available in the bank
- Cap amounts are “adjusted total pounds” (ATP)
  = pounds applied x application factor
- Ag commissioners verify compliance with the cap by checking Notices of Intent
- Exceptions to the cap previously issued, but suspended in Feb 2014 due to air monitoring results

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DPR and ARB 1,3-D ambient air monitoring
(regulatory goal is ≤0.14 ppb lifetime average)

Location (Study)	1-yr Average Concentration (ppb)			
	2006	2011	2012	2013 DRAFT
Parlier (EJ Pilot)	0.477	---	---	---
Oxnard/Camarillo (ARB)	---	0.172	0.191	Not Available
Santa Maria (ARB)	---	0.164	0.192	Not Available
Watsonville (ARB)	---	---	0.161	Not Available
Ripon (Air Network)	---	0.173*	None Detected	0.201
Salinas (Air Network)	---	0.153*	0.064	0.090
Shafter (Air Network)	---	None Detected*	0.085	0.570

* Based on data from 6 months

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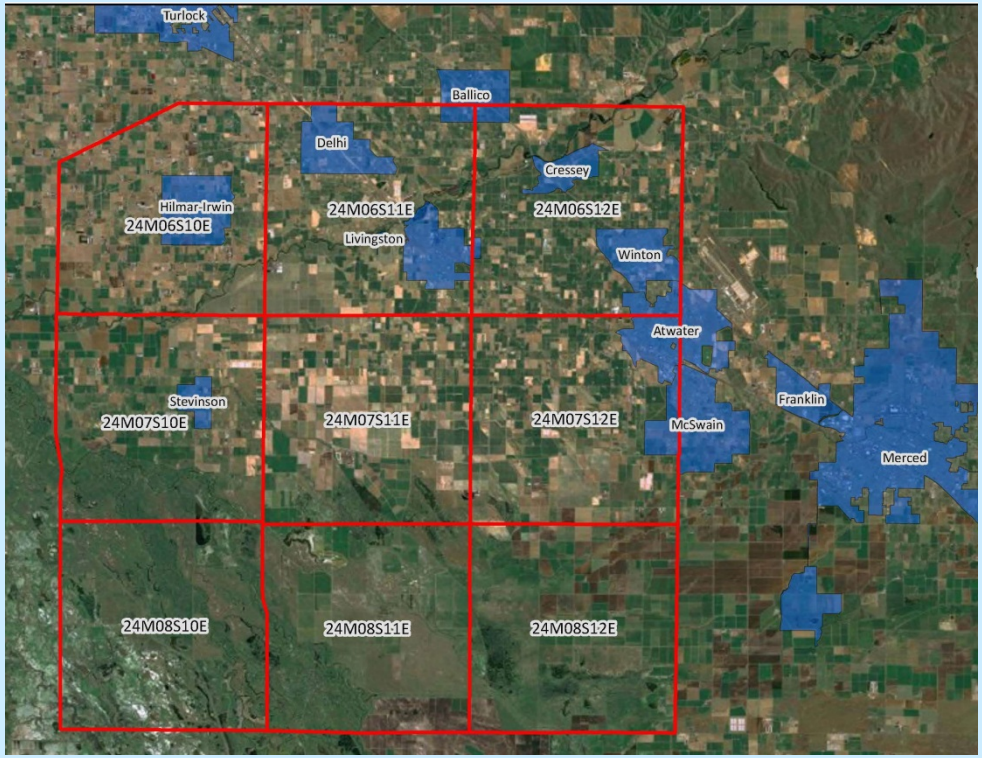
DAS 1,3-D ambient air monitoring in one of the highest use areas

(regulatory goal is ≤0.14 ppb lifetime average)

County-Township	2011 Average Concentration (ppb)
Merced 06S/10E	0.180
Merced 06S/11E	1.081
Merced 06S/12E	0.205
Merced 07S/10E	0.296
Merced 07S/11E	1.820
Merced 07S/12E	0.699
Merced 08S/10E	0.098
Merced 08S/11E	0.216
Merced 08S/12E	0.116



1,3-D monitoring data uncertainties

- Air concentrations shown are 1-year averages, while regulatory goal is 70-year lifetime average of ≤0.14 ppb
- DPR and ARB monitoring did not occur continuously
  - DPR: one 24-hr sample each week
  - ARB: one 24-hr sample every 6 days
- >75% samples at all DPR and ARB sites had no detectable 1,3-D
- Samples with no detectable amount are assumed to have a concentration of one-half of the following detection limits
  - DPR: 0.1 ppb (lowered to 0.01 ppb in Oct 2013)
  - ARB: 0.03 ppb
  - DAS: 0.001 ppb

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1,3-D current status

- Update to risk assessment and evaluation of computer model (SOFEA) to estimate long-term air concentrations are in progress
- Exceptions to the township cap have been suspended
- 1,3-D only products (Telone II) were not included in fumigant label changes, but use of low permeability tarps is increasing for 1,3-D/chloropicrin products
- Research and demonstration of alternatives continues, including DPR grants
- DPR and ARB monitoring continues at 6 sites

Questions, additional information

- Contacts

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- DPR web site: www.cdpr.ca.gov
  - Select “Air” under Quick Links
  - Select “Fumigant regulatory issues”
  - Select “1,3-dichloropropene”