



UPDATE ON FUMIGANTS, VOCS & THE PYRETHROID REEVALUATION

California Garlic and Onion Symposium

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by

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Environmental Solutions Group



Fumigants

- Methyl Bromide Critical Use Exemption Process (CUE)
- USEPA Reregistration Eligibility Document (RED Process)
- Chloropicrin and Metam Sodium actions by DPR

MB critical Use Exemptions

- Amount authorized steadily declining, may speed up with new Administration
 - 2009 = 8,735,715 lbs
 - 2010 = 6,092,378 lbs
- Major California Uses - 2009
 - Deciduous & Rose Nursery (55,000 lbs)
 - Replant (646,000 lbs)
 - Strawberry Fruit Production (2,798,000 lbs)
 - Strawberry Nursery (17,416 lbs)

MB Alternatives

- 1,3-dichloropropene
- Chloropicrin
- MITC generators
 - Metam Sodium and Metam Potassium
 - Dazomet
- Enzone
- Combinations of the above
- Unregistered (iodomethane, DMDS)

USEPA Fumigant Reevaluation Eligibility Document (RED)

- Federal reevaluation of MB, PIC, Metam & Iodomethane
 - 1,3-D previously completed
- Mitigation proposal comment period closed
- EPA meeting with registrants, considering comments



Critical Mitigation Proposals

- Buffer Zones (BZ)
- Notification/Monitoring
- Handler Monitoring
- Fumigant Management Plans (FMP)
- Emergency Responder Training
- Community Outreach and Education

Buffer Zones

- BZs last for 48 hours after completion, cannot overlap
- No application w/in $\frac{1}{4}$ mile of school, licensed day care, etc.
- Sidewalks, road shoulders and public properties cannot be in BZ without written permission
- BZ distances are not tenable

EPA vs. Calif. BZs

- MB/PIC 98/2 @ 300 lbs and 5 acres (Nursery or Replant)
 - Calif. BZ = 250'
 - EPA Proposed BZ = 320'
- 1,3-D (Telone C-35) @ 46.8 gal and 10 acres
 - Calif. BZ = 100'
 - EPA Proposed BZ = 450'

Buffer Zone Posting

- California requires posting of application site
- EPA Proposes posting perimeter of buffer zone unless the grower controls land within 300' from the edge of the BZ

Notification Requirements

- Must notify residences and business within specific distances of perimeter of BZ
 - No sooner than 2 weeks or later than 48hr
- Alternative is instrument monitoring
 - every hour from start of application until 48 hrs after application
 - If specific levels are exceeded, must follow emergency response plan

Monitoring Handlers

- Includes shovelers, loaders, supervisors and many others as well as drivers and co-pilots.
- Must be under supervision of certified applicator on-site (visual contact) during incorporation of fumigant
- Air monitoring in breathing zone of representative handlers every 2 hours (1 hour intervals for some metam handlers)

Additional Requirements

- Site-specific fumigant management plans (FMPs) and post application summary reports
 - copies to workers including on adjacent properties
- Emergency Responder Training
- Worker Training
- Community Outreach & Education



RED Status

- EPA still considering comments & options
- Additional Data
 - Recent studies submitted (chloropicrin)
 - Additional studies underway (USDA)
- Expect publication of RED in April
 - Won't have final BZ decisions
- Mandatory label language in 2010?

What can growers do now?

- There is still time for comment/data
- Comments to EPA should be sent to:

Andrea Carone

(Via Email carone.andrea@epa.gov)

Office of Pesticide Programs (OPP)

Regulatory Public Docket (7502 P)

Environmental Protection Agency

1200 Pennsylvania Ave., N.W.

Washington, DC 20460-0001

Chloropicrin: EPA-HQ-OPP-2007-0350

Chloropicrin and Metam

- California reevaluation of Chloropicrin
 - Includes consideration as Toxic Air Contaminant
 - Draft Risk Assessment in peer review
 - Results and mitigation probably 2010
- MITC Generators
 - Metam sodium & Metam potassium, Dazomet
 - New draft of the mitigation proposal due early this year. Relies heavily on permit conditions



VOCs

- 1994 State Implementation Plan (SIP)
- Court Actions
- Three DPR Regulations
- Proposed 2007 SIP

1994 SIP

- Required reductions in pesticide emissions in 5 Non-Attainment Areas (NAAs)
- San Joaquin Valley goal 12% by 1999
- All others 20% by 2005 or 2008
- Baseline inventory to be based on 1991 PUR “back casted” to 1990

Court Actions

- El Comite, et. al. sued DPR & ARB
 - Failure to promulgate regulations & meet goals
 - SJV reduction should be 20%
 - Use of 1990 instead of 1991 as a base year
- Federal Judge Karlton agreed, ordered regulations to attain 20% in all areas
- DPR appealed & won in 9th Circuit (Aug. '08)



VOC 1

- Promulgated May, 2008
- Met requirements of Judge Karlton's order
- Limited fumigant methods
- Established fumigant license category
- Required 20% emission reduction
- Established allocation system for fumigant permits

VOC 2

- A new (2007) SIP was approved by ARB and forwarded to EPA for final approval
- ARB amended to allow phase in of 20% reduction in Ventura, which led to-
- VOC 2 Regulation
 - Specifically focused to allow the phase in of emission reductions approved by ARB & EPA

VOC 3

- Victory in 9th Circuit appeal decision
 - Determined that 1994 SIP required 12%
 - Allowed DPR to use 1990 base year
 - Set aside requirement for regulation
- DPR re-calculated VOC emissions inventory based on updated methodology
- DPR established a new ton per day (tpd) goal of 18.1 tpd emissions in SJV

VOC 3

- Proposed November, 2008
- Maintains fumigant method restrictions
- Establishes 18.1 tpd goal in regulation
- Postpones allocation system for all areas except Ventura until 2011
- Notices proposed changes in 2007 SIP establishing new attainment goals for all NAAs, all but Sacramento are higher
- 2007 SIP projects reductions from ECs

VOC 3 Status

- Comment period closed, DPR considering comments
- Mostly favorable from Ag community
- Comments that reduction in EC emissions should precede implementation of allocation system
- Strawberry growers request that Ventura not have mandatory allocation system



Pyrethroid Update

- DPR reevaluation due to detects in surface water
- Covers both Ag and Non-ag uses
- Pyrethroid Working Group (PWG) responding
- Reevaluation unique in structure
 - Involved stakeholder groups from outset
 - Water Boards, Storm water agencies, EPA, etc

Reevaluation Requirements

- Environmental Fate data
- Sediment Data
- Data/Information relating to reduction or elimination of offsite movement of residues
 - May include acute & chronic tox
 - Analytical methods
 - Monitoring

Recent Pyrethroid Detections

- Monitoring and detections
 - Monitoring programs have detected residues in sediment and the water column (ILRP, etc.)
 - Detects in Central Coast Region
- CVRWQCB recently published new proposed 303(d) listings.
 - About a dozen new listings for pyrethroids
 - 303(d) listing is a prelude to establishment of TMDLs

Path Forward on Reevaluation

- Pyrethroids are labeled for a wide variety of urban use patterns, determine which are key.
- Is there an association with normal use practices?
 - Water driven transport (of particulate matter) from use sites
- Associated with poor practices?
 - Improper disposal, spills or dumping, “Drift” of sprays & granules?



Path Forward on Reevaluation

- For Ag uses, evaluate existing BMPs
 - Outreach to users (CFBF, WGA, commodity groups)
 - Identify most likely options
 - Conduct technical and economic analyses
 - Identify barriers to adoption
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Potential Mitigation Measures Identified to Date

- Polyacrylamide (PAM) in irrigation water
- Sediment basins
- Changes in irrigation practices
 - Drip irrigation
 - Low pressure microsprinklers
- Grassed waterways
- Filter strips
- Enzymes



Agricultural Mitigation Measures

- DPR considering new regulations
 - Modeled after Ground Water and Dormant Spray Regulations
 - Options for growers to reduce movement of water and sediment containing pesticides from target areas
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Urban Mitigation

- PWG continuing studies to identify problem practices
 - Monitoring and bioassessment
 - Lab runoff studies (turf, hard surfaces)
 - Controlled use study?
- PCOs or Homeowners or combination?
- PCOs- DPR has ample authority
- Home use- Label changes or stewardship?



Thank You!

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