Soil Fumigant Mitigation Options

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FIFRA + FQPA

“No unreasonable adverse effects.”

“Reasonable certainty of no harm.”

Review products every 15 years.

Soil Fumigants

- Methyl Bromide
  - Brom-O-Gas, Terr-O-Gas, Tri-con
- Chloropicrin
  - Chloro-O-Pic
- *1,3-Dichloropropene*-RED Complete
  - InLine, Telone II, Telone, Telone C-17, C-35
- Metam Sodium
  - Metam CLR, Vapam, Busan, Nemasol, Sectagon 42, Sistan
- Metam Potassium
  - K-Pam HL, Metam KLR, Raisan K-50, Sectagon K-54
- Dazomet
  - Basamid, Dacron

Three Main Approaches

- Incident Reports – adverse effects to neighbors.
- Monitoring – WA & CA concentrations approaching/exceeding LOCs for MITC.
- Modeling – predict movement of fumigant and distance until concentrations are below LOC.

Focus On Protecting Neighbors

Wind

Wind blows emissions from a field to a neighborhood (e.g., house or school).

<u>Other risks were evaluated</u>

- **Generally worker risks appear manageable.**
- **No dietary, drinking water or ecological risks.**

Risk Mitigation Options

- Field Monitoring
- Fumigation Management Plans
- Notification

- Buffer zones
- Entry restricted period-5 days
- Posting
- Good agricultural practices
- RUP

- Registrant-stewardship
- Registrant-community outreach
- Registrant-first responder info

Field Monitoring

- What were our concerns
- What we proposed
- What we heard
- Options

Field Monitoring-Concerns

- Incident Reports – adverse effects to neighbors
  * 2 recent WA incidents

- Monitoring – WA & CA concentrations approaching/exceeding LOCs for MITC

- Modeling – predict movement of fumigant and distance until concentrations are below LOC

Conclusion: Field monitoring could reduce risk to bystanders

Field Monitoring

Mitigation that is

Protective

&

Workable

Field Monitoring / Equipment (Shank/Tractor/Water Run)

- What we've heard
  - Many growers are already monitoring
  - Should require continuous monitoring
  - Incidents could be reduced

- Possible alternatives & suggestions
  - During-application & Post-application
  - ?

Field Monitoring / Air Sampling

- What we've heard
  - To burdensome
  - To expensive
  - Not available, easy or accurate
- Possible alternatives & suggestions
  - During-application & Post-application
  - Air sampling and smell and irritation
  - ?

Fumigant Management Plans

- What were our concerns
- What we proposed
- What we heard
- Additional options

Fumigant Management Plans

- Incident Reports – adverse effects to neighbors.
  * 2 recent WA incidents

- Monitoring – WA & CA concentrations approaching/exceeding LOCs for MITC.

- Modeling – predict movement of fumigant and distance until concentrations are below LOC.

- Conclusion: FMPs could improve quality of applications and reduce risk to bystanders

Fumigant Management Plans

Mitigation that is
Protective & Workable

Fumigant Management Plans

- What we've heard
  - To burdensome
  - Create unnecessary concern
- Possible alternatives & suggestions
  - ?

Notification

- What were our concerns
- What we proposed
- What we heard
- Additional options

Notification

- Incident Reports – adverse effects to neighbors.
  * 2 recent WA incidents

- Monitoring – WA & CA concentrations approaching/exceeding LOCs for MITC.

- Modeling – predict movement of fumigant and distance until concentrations are below LOC.

- Conclusion: Notification could help inform and reduce risk to bystanders

Notification

Mitigation that is Protective & Workable

Notification

- What we've heard
  - To burdensome
  - Create unnecessary concern
- Possible alternatives & suggestions
  - ?

Next Steps

Spring 2009	RED Amendments
Fall 2009	Possible Implementation Pilot
2010/2011	Amended Labels in Market

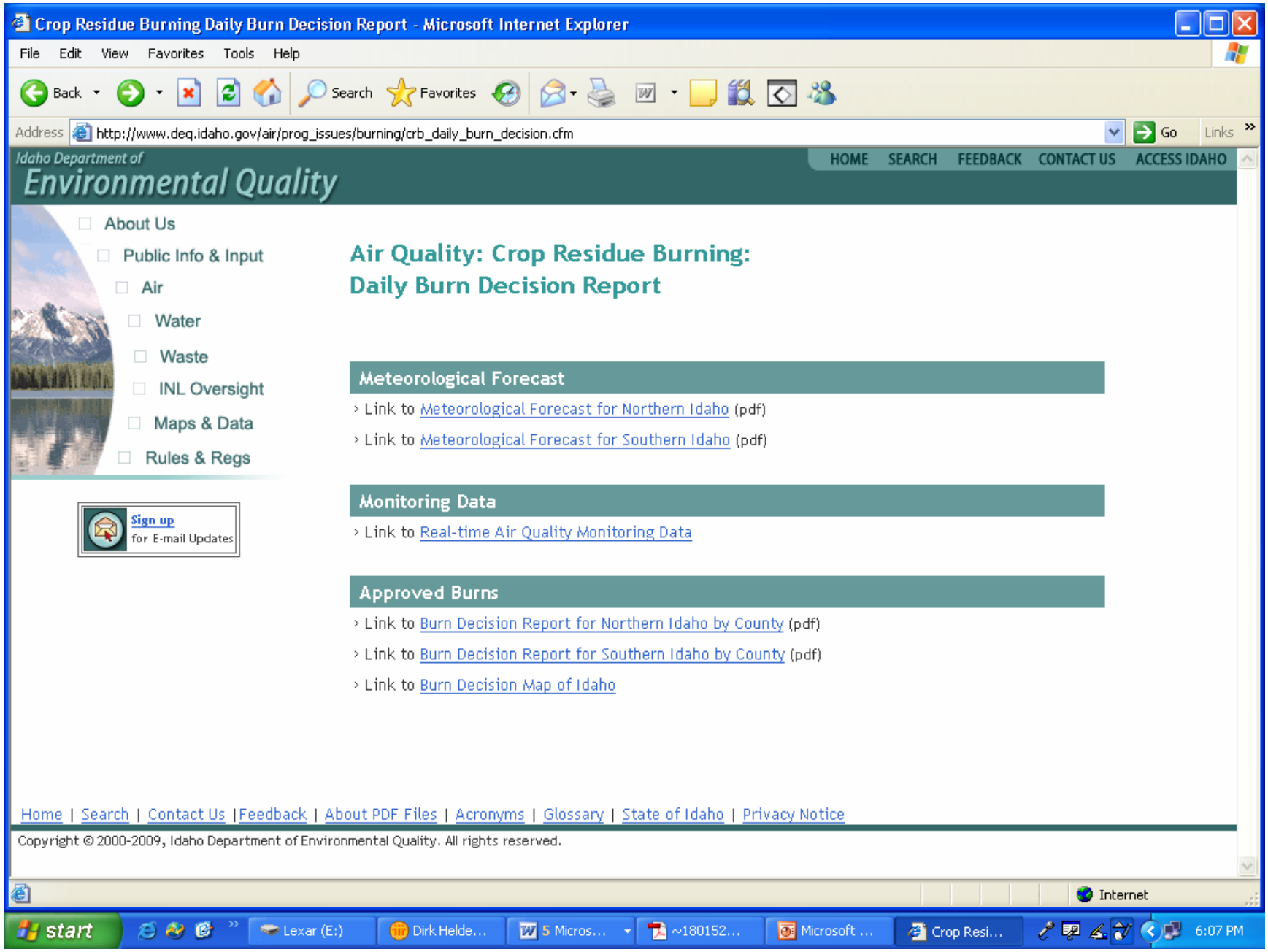
Continue Discussions

- New data just submitted (shank/low/medium/high release)
- New equipment & application techniques
- Improved tarps

What We've Heard?

- Entry restricted period of five days
- Posting
- Good agricultural practices
- Fumigation management plans
- RUP
- Registrant-Stewardship programs
- Registrant-Community Outreach
- Registrant-First Responder information
- Buffers
- Buffer overlap & sensitive site restrictions
- Field monitoring / Notification

Center Pivots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Day 1

31	32	33	34	35	36
25 D-1	26	27 D-1	28	29 D-1	30
19	20	21	22	23	24
13 D-1	14	15 D-1	16	17 D-1	18
7	8	9	10	11	12
1 D-1	2	3 D-1	4	5 D-1	6

Day 5

31	32	33	34	35	36
25	26 D-5	27	28 D-5	29	30 D-5
19	20	21	22	23	24
13	14 D-5	15	16 D-5	17	18 D-5
7	8	9	10	11	12
1	2 D-5	3	4 D-5	5	6 D-5

Day 9

31 D-9	32	33 D-9	34	35 D-9	36
25	26	27	28	29	30
19 D-9	20	21 D-9	22	23 D-9	24
13	14	15	16	17	18
7 D-9	8	9 D-9	10	11 D-9	12
1	2	3	4	5	6

Day 13

31	32 D-13	33	34 D-13	35	36 D-13
25	26	27	28	29	30
19	20 D-13	21	22 D-13	23	24 D-13
13	14	15	16	17	18
7	8 D-13	9	10 D-13	11	12 D-13
1	2	3	4	5	6

RED Buffers

Center Pivot-
low release

Acres Treated	120 lbs ai/acre (29 gal)	140 lbs ai/acre (34 gal)	160 lbs ai/acre (38 gal)
40	125	150	215
80	260	310	360
120	405	470	540

Shank

Acres Treated	120 lbs ai/acre (29 gal)	140 lbs ai/acre (34 gal)	160 lbs ai/acre (38 gal)
40	58	63	67
80	135	157	180
120	180	202	225

* New Date = New Buffers