Using PUR data to follow Fumigant Use Trends and Predict Regulatory Impacts

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Methyl Bromide Use in California
from CDPR PUR database

MeBr Use (million lbs.)

1991 1993 1995 1997 1999 2001 2003 2005

Use
Limit
MeBr Use in California
from CDPR PUR database

Fumigant Use (million lbs.)

- Total
- Strawberry
- Trees & Vines
- Ann Veg & Fruits
- Nursery & Orn.
Fumigant Use in California
from CDPR PUR database

- MeBr
- 1,3-D
- Metam
- Cpic

Graph showing fumigant use in California from 1991 to 2001.
1,3-D (Telone) Township Caps

CA Recommended Permit Conditions for 1,3-D Products (Telone)

Township Caps – No more than 90,250 “adjusted” lbs per township (36 sq mi) can be applied per year (currently doubled)
Township Caps

- Intent – limit total applications, and thus long-term air concentrations, in a geographical area
- 90,250 (180,500) lbs (9600 (19,200) gal Telone II) (“adjusted”) in 36 sq mi (23,040 ac) township per year
- Can fumigate only 1 – 5% of total acres
  - 273 (546) ac perennials (1%) (deep shank, max rate)
- Application factor
  - Varies between 1.0 and 2.3, depending on application method and depth and time of year
Question: What will be the impact of the Township Caps on Availability of Telone for the various Commodities
Predicted Impact of Township Caps

- Assume all crops that used MeBr or Telone will want to use Telone at present rates and application methods.
- Use CA DPR PUR database to predict townships where caps will be exceeded.
- Allocate excess acres proportionally among crops.
Predicted Impact of Township Caps

- Only 2/3 (80%) of previously MeBr + Telone fumigated area could use Telone
- Only 1/3 (1/2) of strawberries could use Telone
- Would limit use on sweet potato, nurseries, ornamentals, and vegetables.
- Impact on trees and vines is low because of less intense fumigation – 90% (95%) can use.
Townships that would exceed the Telone Caps
**Database Manipulations**

- Import records from CD to PC (ACCESS database)
- Divide into types: soil fumigation, post-harvest, and structural
- Determine Crop Fumigated (Site Code)
- Determine Area Fumigated (Acres Treated)
- Error check out-of-range applications
- Set up Look Up table of expected rates and application factors
- Set up Queries to manipulate data
Database Manipulations

✍ Import: Too large for PC – Import by county and cull out non-fumigant records
  - Use Visual Basic Module (batch file)

✍ Divide into types: pre-plant (soil), post-harvest, and structural fumigation
  - Can be difficult. Use Site Code, Unit Treated, Record ID
Database Manipulations

❖ Determine Crop Fumigated (Site Code)
  – 1000 records (1 million lbs) assigned to “soil application”
  – Use grower/field/township crop info

❖ Determine Area Fumigated (Acres Treated)
  – Eliminate double applications (combination treatments)
  – Correct/modify unknown (U) and incorrect units
  – Error check applic. rates for out-of-range

❖ Error check out-of-range applications
  – Verify with DPR
Difficulties

- Assigning Crop
- Correcting Area Treated
- Assigning fumigation type
- Delay in availability
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