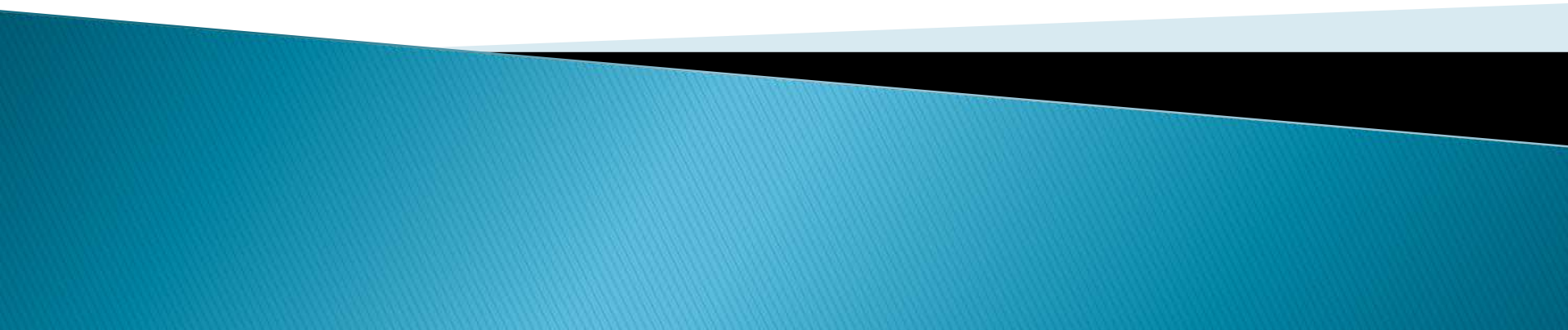


# FUMIGATION



# Common Fumigants

- ▶ Methyl Bromide (MeBr)
- ▶ Phosphine (PH)
- ▶ Sulfuryl Fluoride (SF)

# Methyl Bromide

- ▶ VOC/HAP
- ▶ Compressed gas
- ▶ Most common fumigant

# Phosphine

- ▶ HAP
- ▶ Often found in solid/tablet form.

# Sulfuryl Fluoride

- ▶ VOC
- ▶ Compressed gas

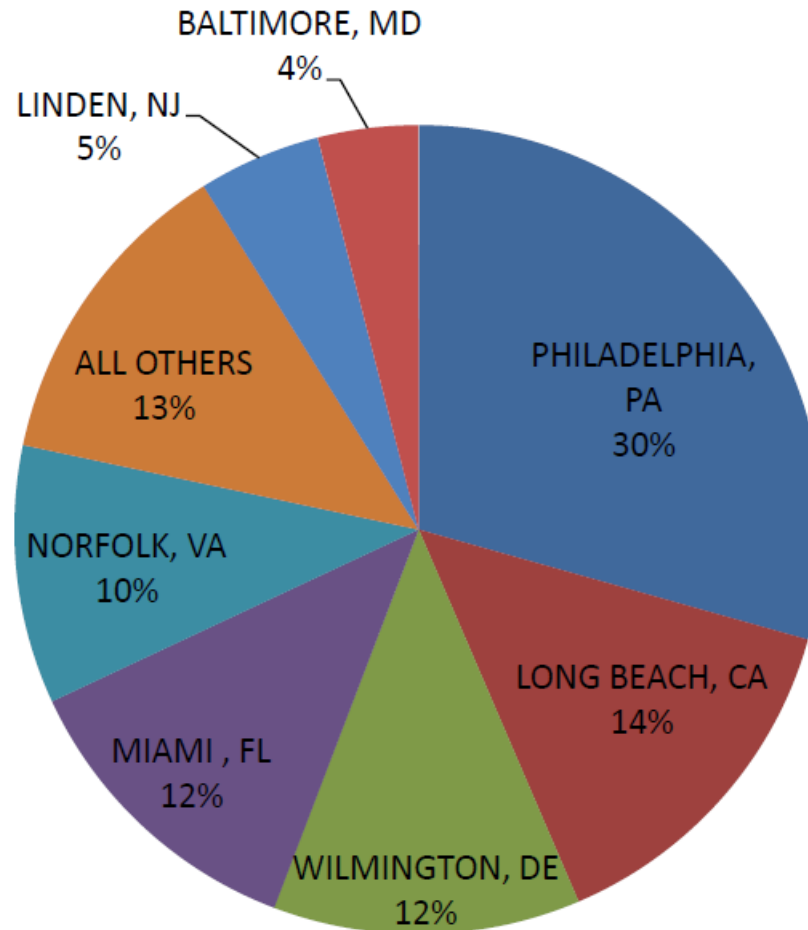
# 2005 MeBr QPS Use Report to the Parties of the Montreal Protocol

- ▶ Soil Fumigation 75%
- ▶ Export Commodities 13%
- ▶ Import Commodities 12%
- ▶ Interstate Movement <1%

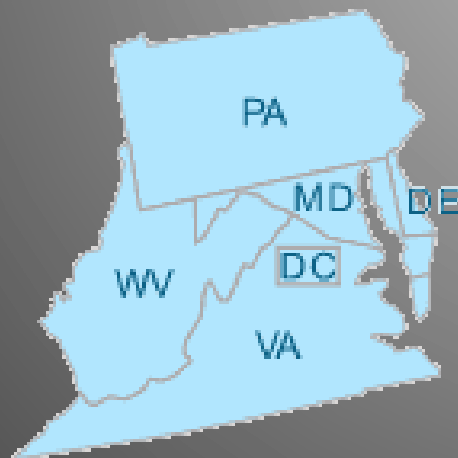
\* As reported by USDA

# 2010 QPS Port use of MeBr

As reported by USDA



# Key Identified Region 3 Fumigant Locations





# Delaware

- ▶ Diamond State Port Administration/Port of Wilmington
  - Major source of MeBr
  - DSPA signed a CO that contained a \$250,000 penalty
  - Royal Fumigation signed a CO that included a \$150,000 penalty

# Maryland

- ▶ Dundalk Marine Terminal

# Pennsylvania

- ▶ Unilever
  - PADEP issued NOVs to Western and Unilever

# Philadelphia AMS

- ▶ Philadelphia Regional Port Authority
  - Has 4 piers that fumigate
    - Both Royal & Western
    - EPA R3 issued 114 and NON to all piers and fumigators

# Virginia

- ▶ VADEQ issued NOV to both Royal and Western for constructing new sources of MeBr
  - \$70,000 penalty
  - Required MACT analysis

# Allegheny County, District of Columbia, West Virginia

- ▶ No known fumigation sources

# Large fumigant contractors in R3

- ▶ Royal Fumigation
- ▶ Western Fumigation

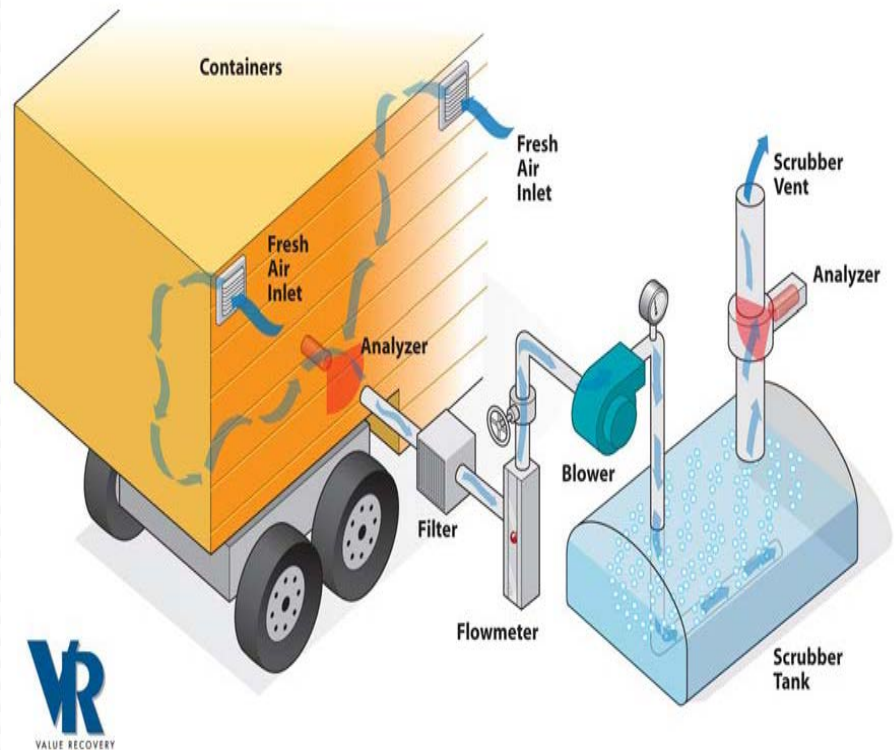
# Control Technologies

Carbon Adsorption  
Proven Technology  
May not scale up



Scrubbers/Carbon Adsorption

Not yet in practice?





# Currents

- ▶ R3 is working closely with OECA to help develop a nationally consistent fumigation strategy
- ▶ R3 is monitoring emerging control technology
- ▶ R3 promoting awareness