

The Pesticide Stewardship Alliance

7th Annual Working Conference

February 26, 2007

AAPCO Pesticide Drift Enforcement Survey & Related State Regulatory Issues

-Dave Scott-

Office of the Indiana State Chemist

&

Chair, AAPCO Off-Target Movement
Committee

AAPCO

- Association of American Pesticide Control Officials
- Pesticide State Lead Agencies
- State Departments of Agriculture
- State Environmental Agencies
- Others

Specifics to be discussed

- AAPCO survey results
- Variety of state drift rules & label language approaches
- How the current drift regulations relate to emerging application technology
- Can we reconcile evolving application technology & drift regulation ?

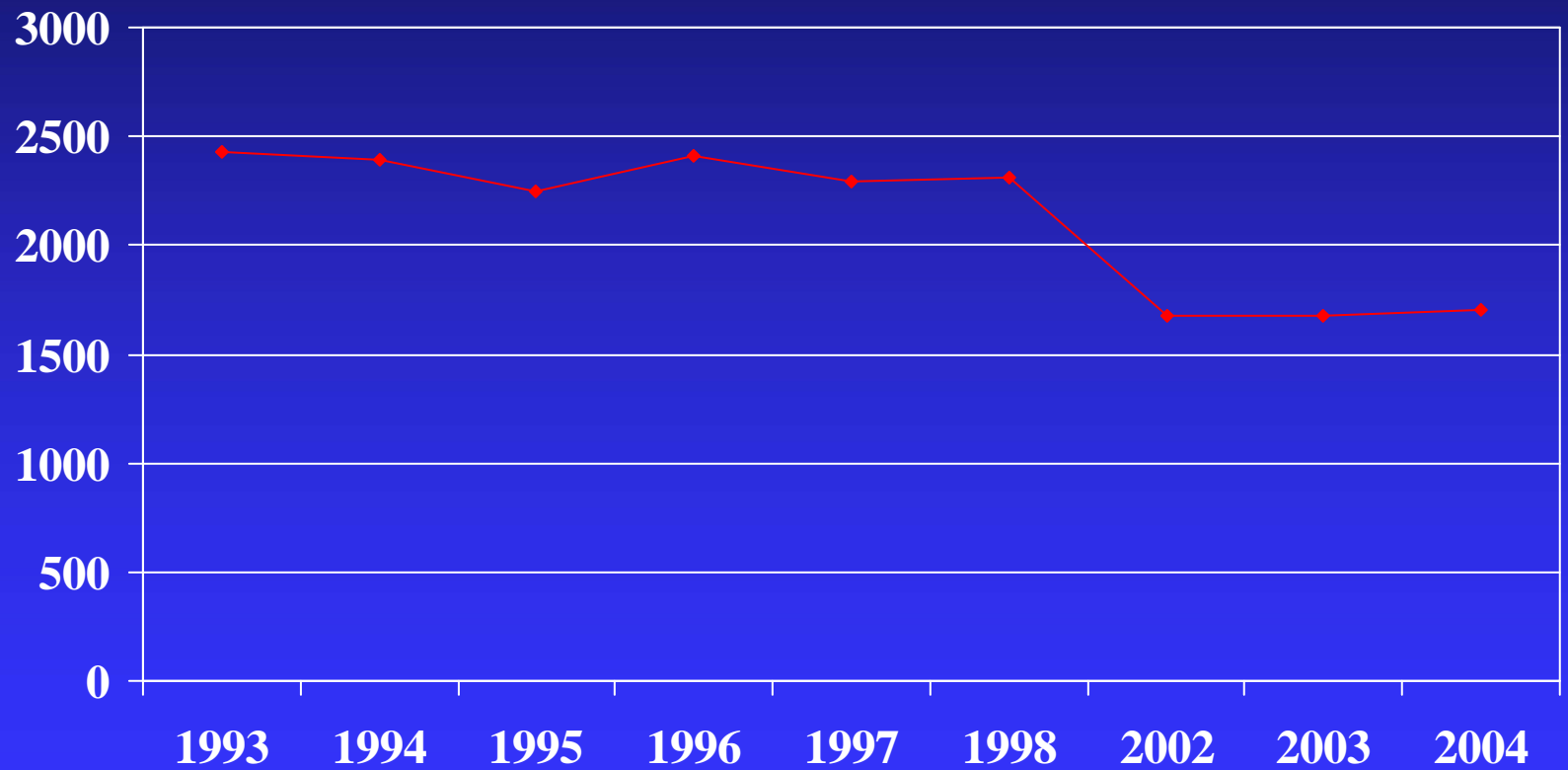
AAPCO Drift Surveys

- 10 + years ago *National Coalition for Drift Minimization* requested drift incident/enforcement data from states
- Each survey covers previous three years of SLA data
- 1996 survey.....1993, 1994, 1995
- 1999 survey.....1996, 1997, 1998
- 2005 survey.....2002, 2003, 2004
- 1999 , 2000, 2001 period not surveyed

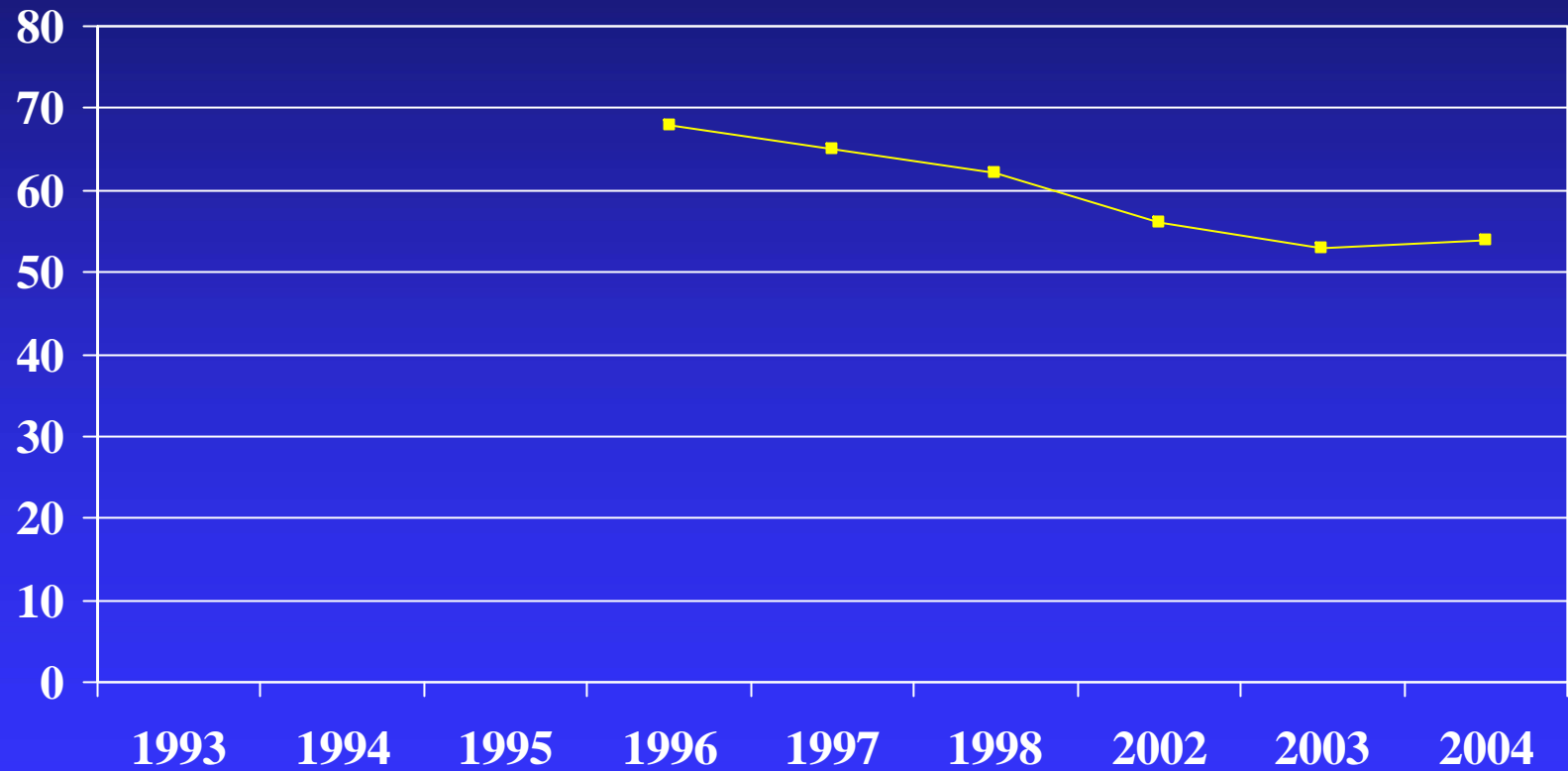
Survey limitations & cautions

- States define, investigate & enforce differently
- Some data are estimates
- Some states provided only partial data
- Participating states have changed
- Some “big” drift states missing from survey
- Questions have not remained identical
- No scientific statistical analysis performed

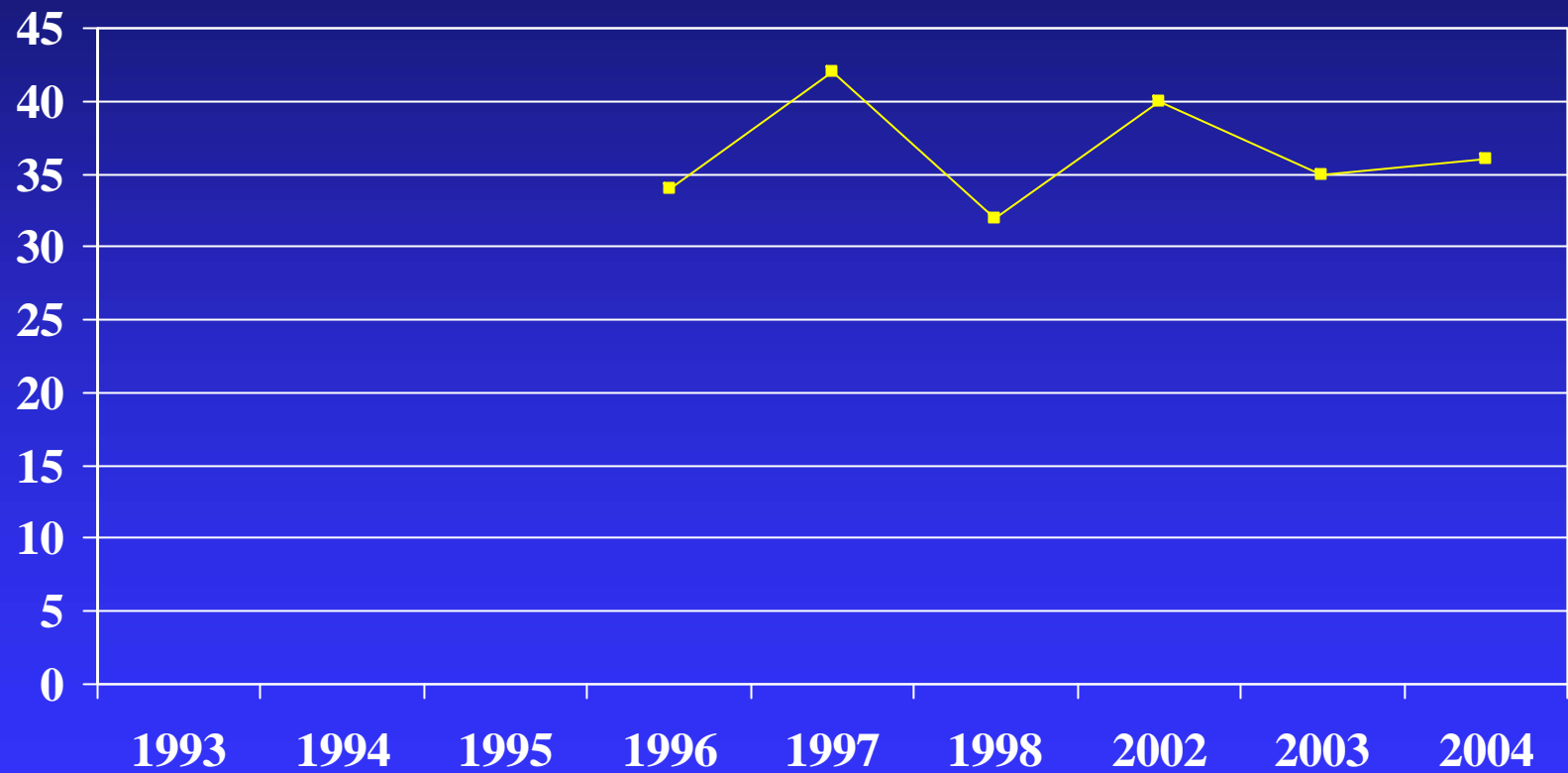
State Investigations



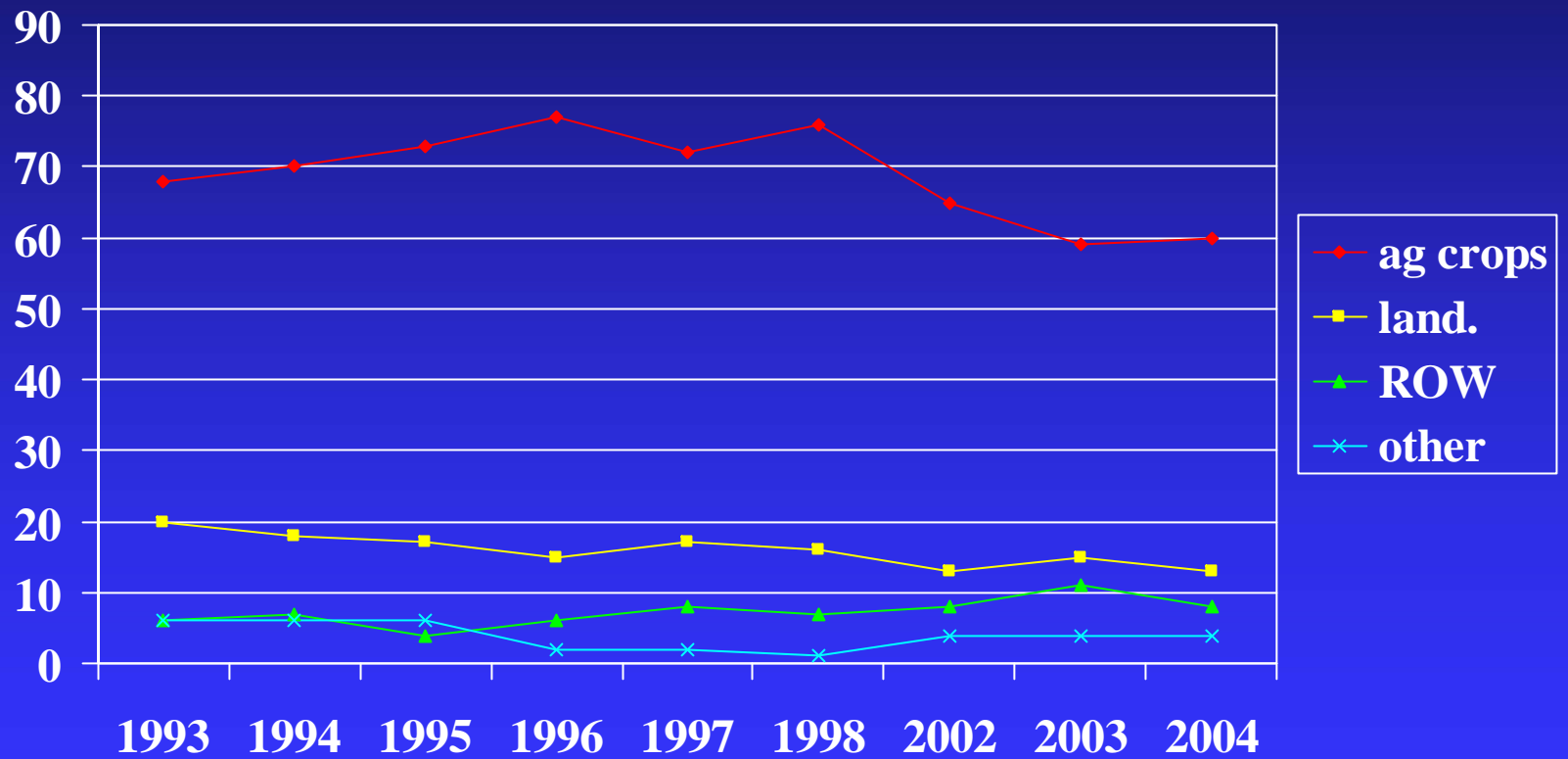
% Investigations Drift Confirmed



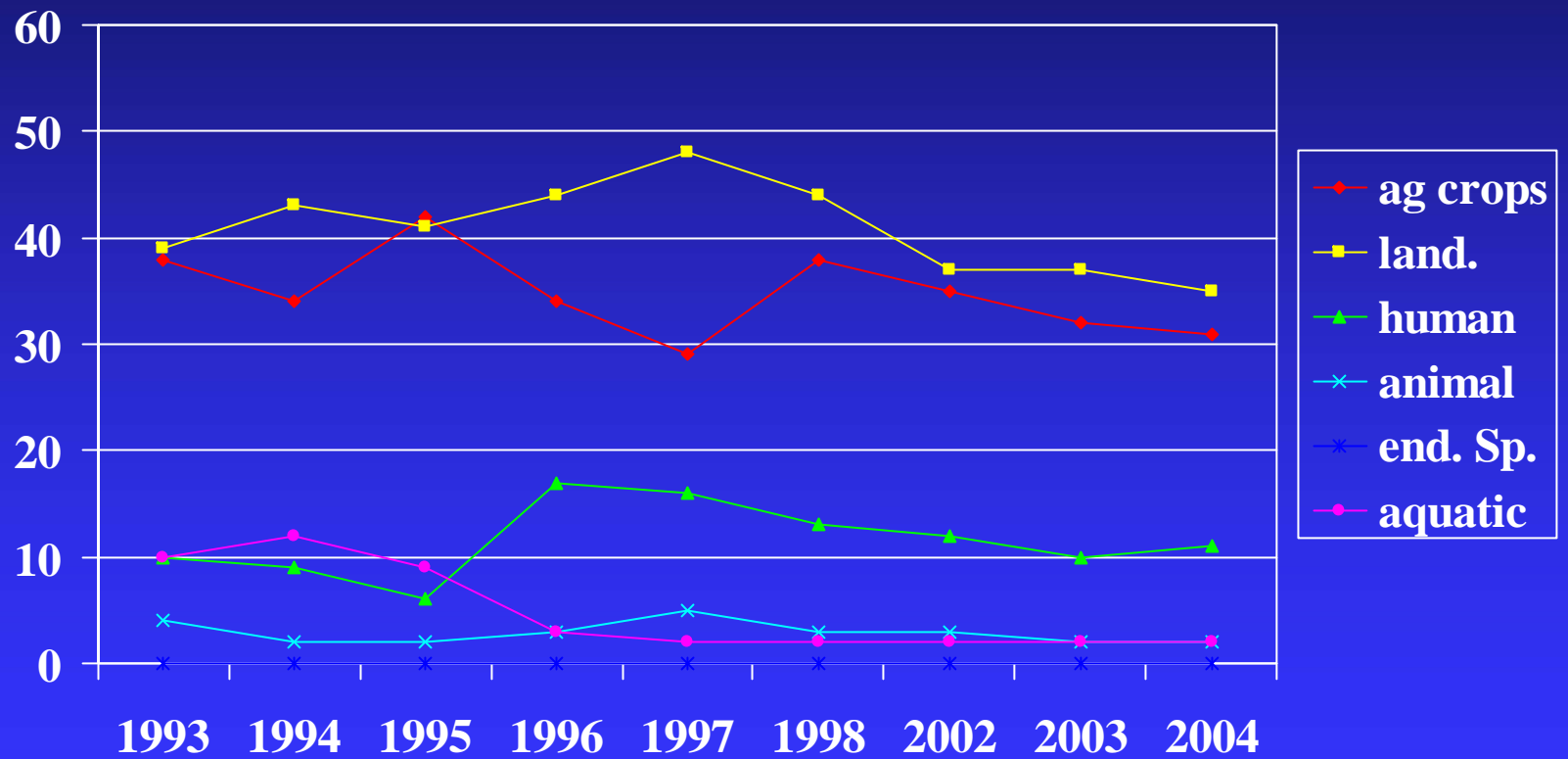
% Investigations Enforcement Taken



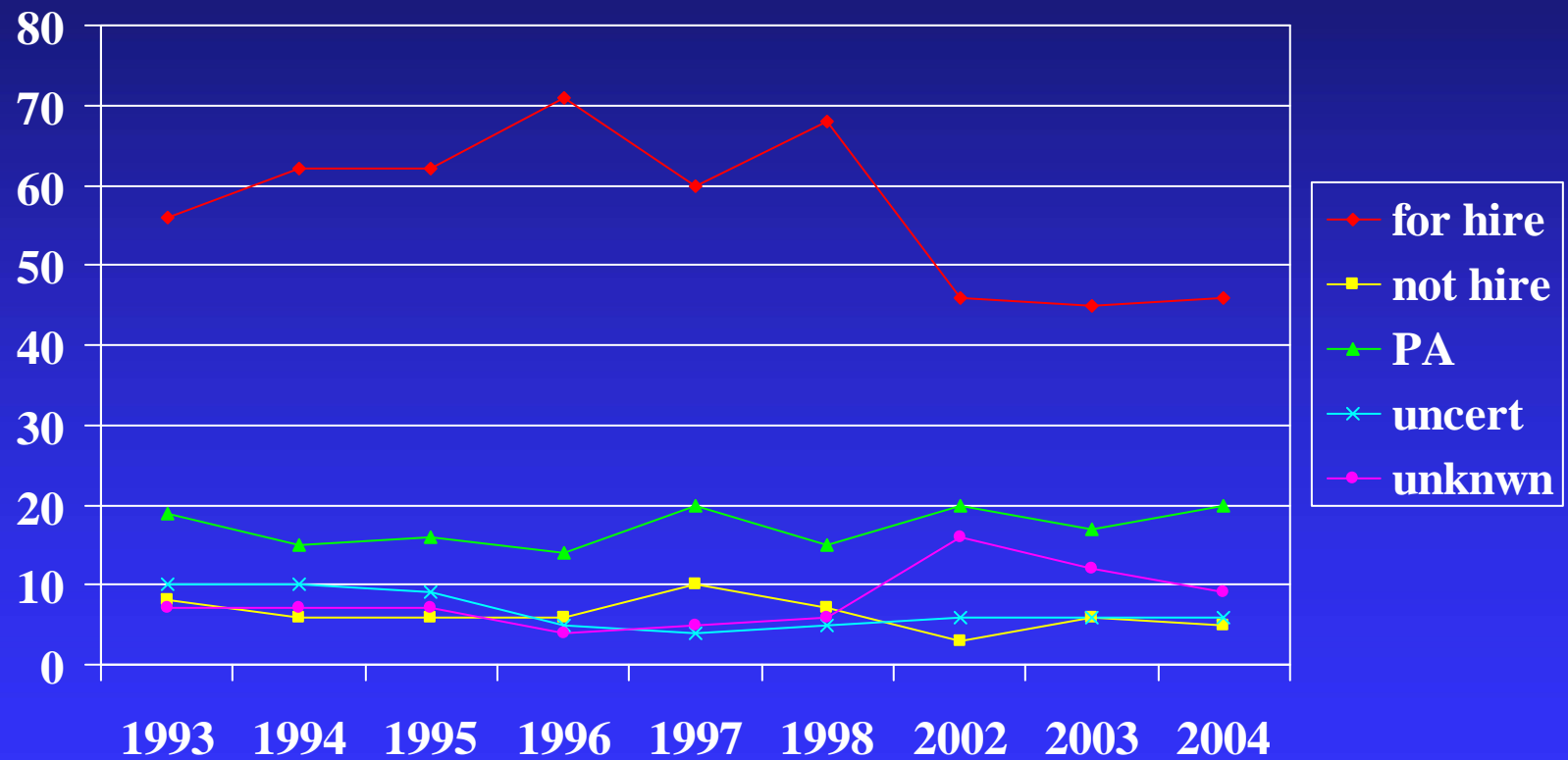
% Target Site for Confirmed Drift



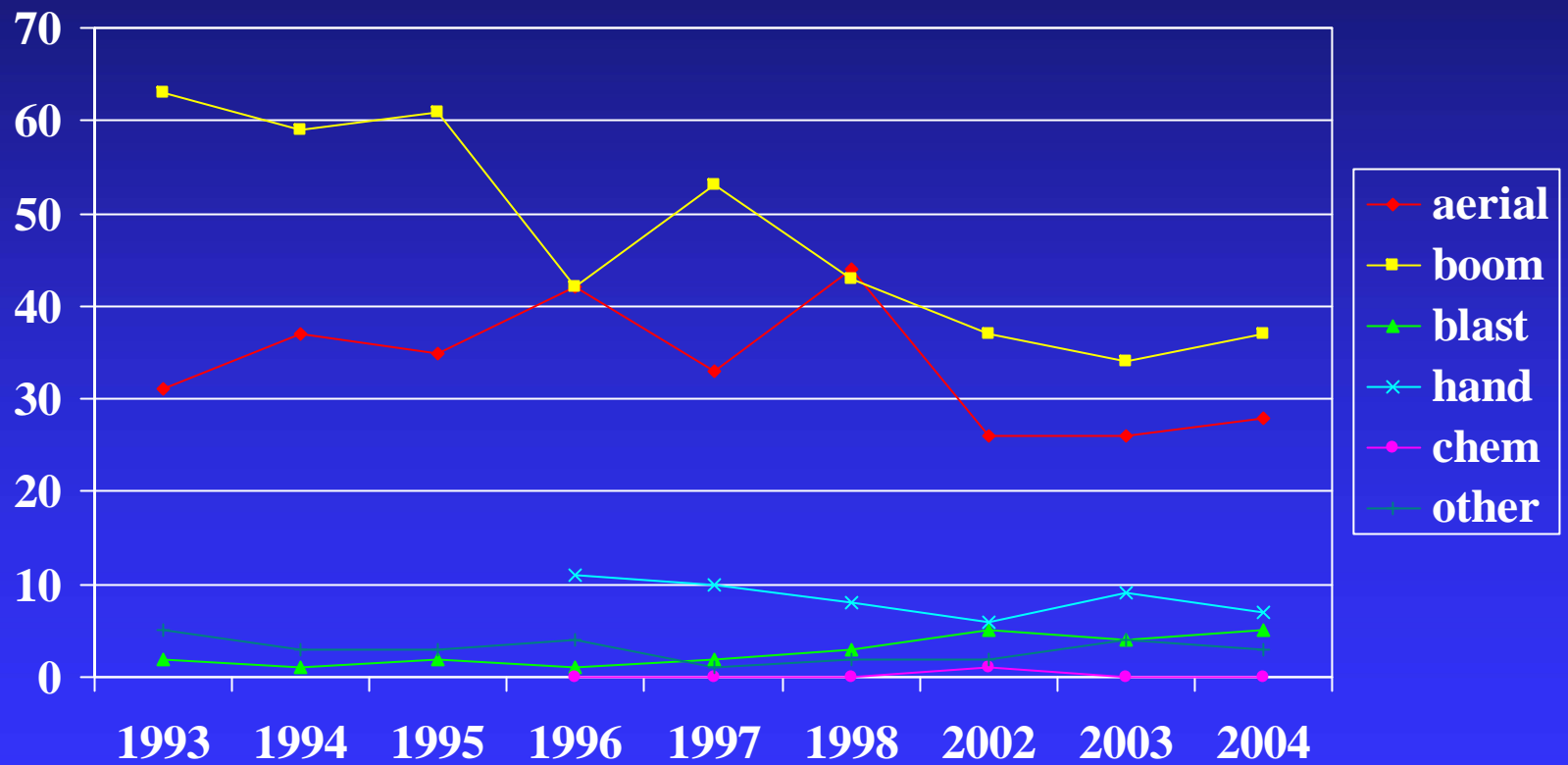
% Site Drifted Onto



% Doing the Drifting



% Application Method



Pesticides Drifted Most Often

	1st	2nd	3rd	4th	5th
1993	2,4-D	clomazone	paraquat	glyphosate	dicamba
1994					
1995					
1996	2,4-D	glyphosate	dicamba	atrazine	paraquat
1997	2,4-D	glyphosate	dicamba	clomazone	paraquat
1998	2,4-D	glyphosate	dicamba	atrazine	malathion
2002	2,4-D	glyphosate	malithion	atrazine	pendimethalin
2003	2,4-D	glyphosate	dicamba	atrazine	picloram
2004	2,4-D	glyphosate	dicamba	atrazine	paraquat

Survey Observations (my own)

- Total # of complaints/investigations may be trending down...500+ drop in 10 years.
- Enforcement actions fairly consistent ~35%.
- Target application site largely ag crops.
- Non-target sites largely ag crops & landscape
- Commercial applicators drifting the most but % may be decreasing
- Herbicides drifted most often

State Laws & Rules Vary

- “The label is the law” (common thread) *
- Off-target drift is a violation
- Due care & safe use
- Sufficient quantities to cause harm
- Mandatory buffers
- Notification

State regulation (continued)

- Geographic, sensitive crops, seasonal & product restrictions
- Equipment specifications
- Minimum & maximum wind speeds
- Drift management plans

Off-target drift is a violation

- AK, CA, ME, NC, ND, WI...
- North Dakota ... must be made in a manner that prevents off-target discharges...
- Wisconsin ...is presumed to be the result of drift unless evidence of overspray...
- Maine ...no off target direct discharge unless prior consent of owner or lessee...

Due Care & Safe Use

- California ...failed to do what a reasonable applicator would do...weather, conditions near target...
- Oklahoma ...use methods not suitable or safe...fail to follow label precautionary and recommended language...

Drift that causes harm

- Current AAPCO label proposal & model policy
- AK, NH, AZ, IN...
- ...drift to non-target site in an amount sufficient to cause injury...
 1. residues in excess of tolerance
 2. death, stunting, deformation, or other detrimental effect
 3. (AK) measurable amount objectionable to non-target owner or resident

Mandatory Buffers

- AL, AZ, CT, LA, MA, NJ, NC...
- Aerial 400' schools, hospitals, churches...
- Highly toxic ¼ mile schools, day cares...
- 25' residents adjoining field
- Dust 100' public highway
- ½ acre parks, playgrounds, swimming areas
- Aerial 1,000' inhabited structures
- Aerial 150' schools
- Aerial 300' occupied schools, hospitals, businesses
- Aerial 100' residences

Notification

- CA, CT, ME, MA, NJ, PA, TX, WI...
- Aerial phenoxy 300' residents by request
- Aerial 500' residents, schools...by request
- Aerial 100' written consent from residents
- Air or ground contiguous residents on registry
- Airblast ¼ mile schools, hospitals, home or work of chemically sensitive...
- Aerial ¼ mile residents by request

Geographic , Sensitive Crop, Seasonal & Product Restrictions

- Florida...no organo-auxin herbicides upwind of tomatoes, peppers, watermelons, eggplants & ornamental broadleaves.
- Florida...no aerial fixed wing organo-auxins Jan. 1-May 1 in Hendry, Palm Beach, Glades, or Martin counties.
- California...no propanil in Butte, Colusa, Glenn, Placer, Yuba & Sutter counties within 4 miles of commercial prunes by air & 1 mile by ground.
- California...no dicamba, 2,4-D or propanil Mar. 16-Oct.15 in portions of some counties within 2 miles of commercial vineyards & cotton.

Equipment Specifications

- Alaska...aerial positive shutoff, nozzle check valves or positive action valve system, & nozzles directed backward
- Maine...properly calibrated equipment with calibration records & shut off valves
- California...2,4-D, dicamba & propanil aerial boom pressure less than 40 psi & ground boom less than 30 psi with nozzle orifice more than 1/16 inch

Wind Speeds

- Alaska...max. 7mph unless stated on label
- Maine...max. 15 mph
- Florida...for organo-auxins graduating wind speeds for graduating distances from sensitive crops, max. 10 mph

Drift Management Plans

- Michigan...applicator must develop written plan to minimize adverse effects when off-target drift is anticipated, review plan annually & keep for 3 years (RUP's) or 1 year (GUP's).
- Maine...to enhance flexibility a landowner, lessee or applicator is encouraged to voluntarily develop a written plan to minimize potential off-target adverse effects. Plan is valid for 2 years.

Problems associated with various regulatory approaches

- “The label is the law.”
- Terms used on labels often not defined.
- Mix of enforceable & advisory language
- Language is very inconsistent from product to product
- Language may be “unconstitutionally vague”

Do not apply...

- **when winds are gusty**
- **if wind speeds are or become excessive or gusty**
- **when winds are gusty or when other conditions favor poor spray coverage and/or off target spray movement**
- **when conditions favor drift**

Avoid...

- **drift to all other crops and non-target areas**
- **off target drift to sensitive crops**
- **gusty or windless conditions**
- **windy conditions**

Problems with other approaches...

- Zero drift allowed....technically impossible
- Due care & safe use.....subjective
- Causes harm.....need to define harm
- Mandatory buffer...inflexible
- Specified equip.....discourages innovation
- Geog. & seasonal restrict...inflexible

Can we reconcile application technology & drift regulation?

- Sec. 24(c)...special local needs
- States need the data
- Local need...efficacy...no increased risk
- Many states are not risk assessors
- More than 5 states not SLN
- EPA cuts off SLN after 15 states
- Label must not prohibit the change

Can we reconcile...?

- Standardize label language...PPDC ?
- Applicators need to know what is expected of them
- States need a mechanism to effectively protect man, property & the environment
- States will continue to develop regs. if no mechanism exist.
- Minimize label clutter to allow for innovation

Questions to ponder

- Is it reasonable to try to tie enforceable drift to harm or adverse effects?
- Is development of practical and enforceable drift label language possible?
- Does all drift management guidance need to reside on the label?

Comments or Questions ?

- Dave Scott
- (765) 494-1593
- Fax 494-4331
- scottde@purdue.edu
- <http://aapco.ceris.purdue.edu>

- THANK YOU !