

# Communicating Pesticide Risk to Your Clients

Dave Stone, PhD

National Pesticide Information Center

Department of Environmental &

Molecular Toxicology

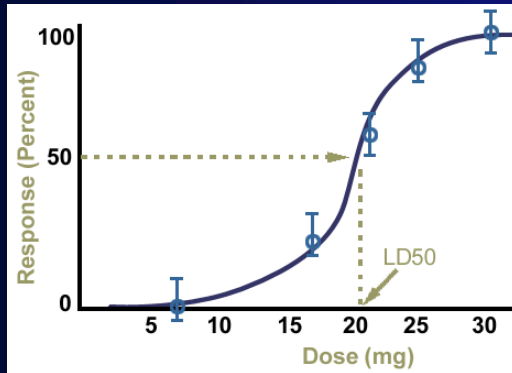
**Oregon State University**

# Key points

- Risk Perception
- Risk Communication Tools
- Specific Triggers



# Defining Risk...



Expert's  
definition of risk

Probability x consequence



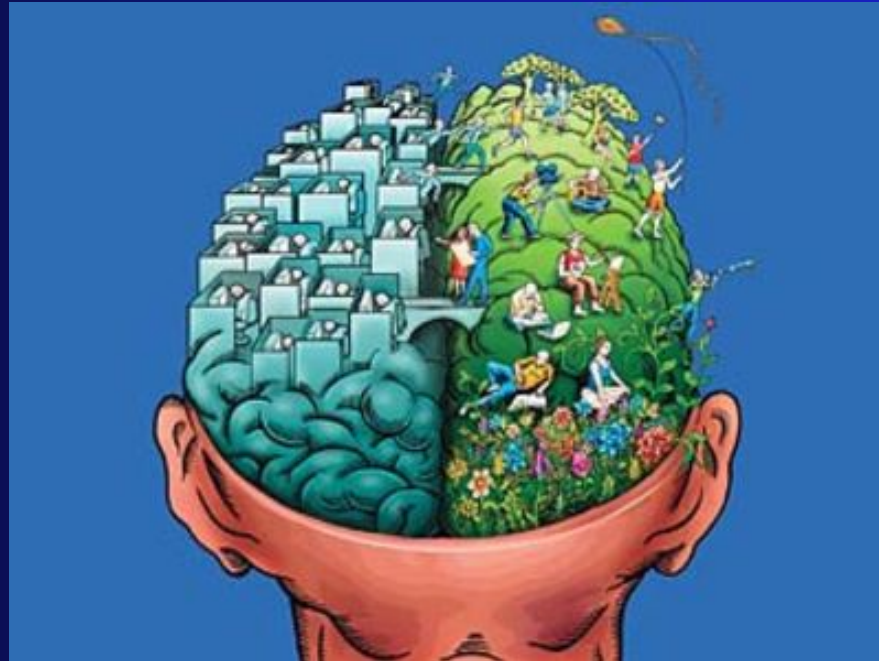
Public's  
definition of risk

Hazard + outrage



Shared communication  
& understanding?

# The Emotional Brain



Triggering the amygdala (a.k.a. the “emotional brain”) can lead to denial or accentuation of feelings, immediate furor and oppositional defiance.

# Perception is reality...

Catastrophic  
Potential

Voluntary/  
Involuntary

Familiar/  
Unknown

Fair/  
Unfair

**Risk Perception**

Trust

Dread

Effects on  
Children?

Benefits?



# Issues with pesticides

Visibility & widespread use

DDT Legacy

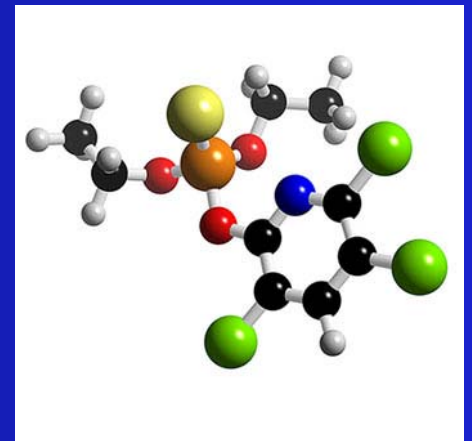
Intentional application

High profile misuse cases

Limited stakeholder dialogue

Determined advocacy

“Are they safe?”



# Safe can mean many things...

- Health and well-being
- Peace of Mind
- Financial security
- Quality of life
- Predictability
- Control/involvement
- Familiarity
- Community acceptance

# Uncertainty?

Deal with it! Address specific concerns.

- What methods were used to assess safety?
- How do we know for certain it won't cause cancer?
- Has staff been trained to properly apply these products?
- Is this more risky to children?
- What will this do to local fish and wildlife?

# When communicating

- Actively listen to concerns
- Do not interrupt
- Acknowledge their feelings
- Address the core concerns
- Politely correct misinformation (not emotions)
- Acknowledge when you don't know something
- Offer third-party informational resources

# In public meetings...

- Before the meeting: find out community needs, concerns and composition
- Set up ground rules for meetings
- Acknowledge scientific uncertainty or controversy
- Avoid arguing study details/merits in meetings
- Distribute materials with information you want the audience to retain
- Use humor & analogies carefully
- Bring help!



# Knowing thy audience...

- Demographics of the audience
- What are specific and general concerns?
- What are likely questions they may have?
- What is the past history?
- What are their perceptions?
- Do they have a spokesperson/group?
- What will they expect from you?
- Who do they trust?

# Communication is more than words....

- Your reputation
- Your attitude
- Your actions
- Your inactions
- Your silence
- Your timeliness

# Emphasize Proactive Measures

Maintain certification and attend trainings

Use modern, calibrated & targeted spray equipment

Careful/judicious with use – pesticides cost \$\$\$

Use of 25B or Reduced Risk Initiative products

Describe your notification/monitoring system

Reiterate you are also a member of the community

# Is it O.K. to compare risks?

## DOs...

Analogies are fine if they are not trivialized (ex. distance/volume = ppm)

O.K. to compare risks to normalized standards (RfD) or other estimates of the same risk

Same risk over different timeframes

## DON'Ts..

Do not compare risks that have different levels of outrage.

Do not dismiss risk solely by listing benefits

Do not use humorous or polarizing comparisons



# Numbers...

We only found  
50 ppb in the  
soil!

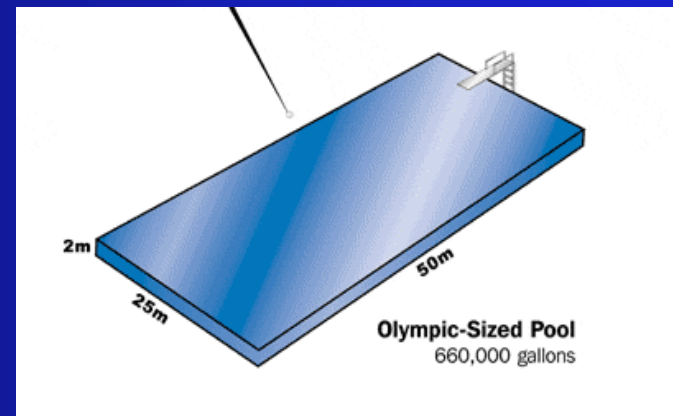
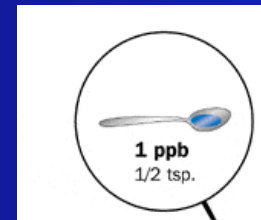


I don't care.  
50 is too  
much.

# Numbers...

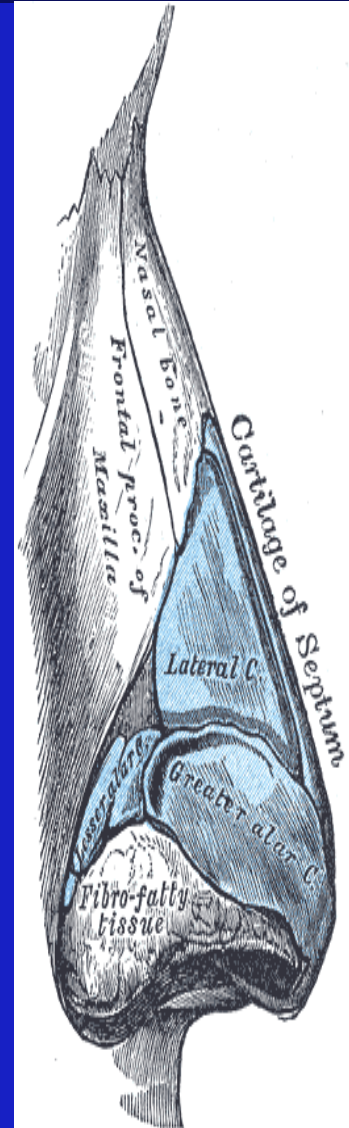
Part per million:  
one inch in 16 miles  
one minute in two years  
one cent in \$10,000

Part per billion:  
one inch in 16000 miles  
one cent in \$10,000,000  
one second in 32 years  
or...



# Odor

- Sensory irritation vs smell
- Some chemicals have very low odor thresholds - (several chlorinated solvents, petroleum hydrocarbons, naphthalene)
- Wide variety of variables for odor detection
- Odor-worry interaction



# Monday, 8:02 AM phone call...



You are on the line with a resident who was recently diagnosed with thyroid problems and is concerned about recent spraying. According to the EPA, the active ingredient used was shown to have thyroid effects. Should you:

- A) Panic, curse profusely, then hang up
- B) Politely listen to concerns without interrupting
- C) Correct misinformation about spraying
- D) Assess exposure potential & environmental history
- E) Consult with trusted sources on the toxicology

# Resources:

## National Pesticide Information Center

1-800-858-7378

[www.npic.orst.edu](http://www.npic.orst.edu)

[npic@ace.orst.edu](mailto:npic@ace.orst.edu)

The screenshot shows the NPIC homepage with the following elements:

- Browser Title:** National Pesticide Information Center - Home Page - Mozilla Firefox
- Navigation Menu:** About NPIC, Site Map, NPIC Home, General Info., Technical Info., Regulatory, Manufacturers, Pest Control, Emergency, Related Links, NPMMP, Search.
- Logo:** npic NATIONAL PESTICIDE INFORMATION CENTER
- Introductory Text:** NPIC provides objective, science-based information about pesticides and pesticide-related topics to enable people to make informed decisions about pesticides and their use. NPIC is a cooperative agreement between Oregon State University and the U.S. Environmental Protection Agency.
- New & Notable:** Two featured brochures: "¿Tiene Preguntas Sobre Pesticidas? ¡Tenemos Respuestas!" (Spanish) and "Pesticide Questions? We've Got Answers!" (English).
- NPIC Publications:**
  - [Brochure](#)
  - [Folleto en Español](#)
  - [Fact Sheets](#)
  - [West Nile Virus Resource Guide](#)
  - [Case Profiles](#)
  - [Medical Case Profiles](#)
  - [InfoBase Search](#)
- Hours of Operation:** NPIC is open from 6:30AM to 4:30PM Pacific time, daily. You can also reach us via e-mail at [npic@ace.orst.edu](mailto:npic@ace.orst.edu).
- Footer:** 1.800.858.7378, OSU Oregon State University, EPA United States Environmental Protection Agency.



Dave Stone, PhD

541-737-4433

[Dave.Stone@oregonstate.edu](mailto:Dave.Stone@oregonstate.edu)

Department of Environmental and Molecular Toxicology