

# Talking to the Public About Glyphosate and Other Pesticides

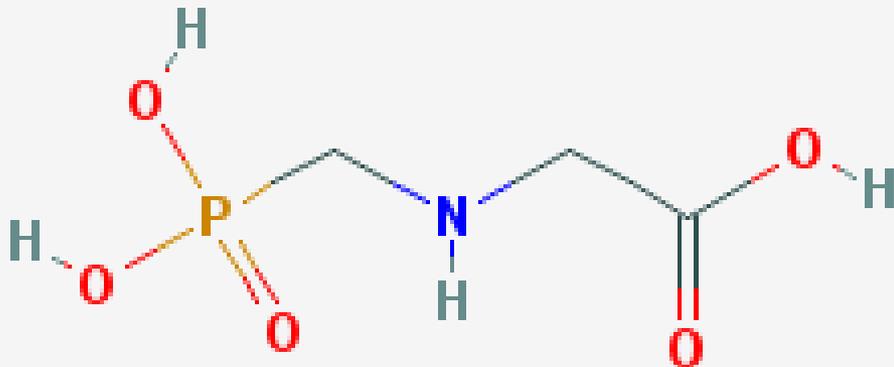
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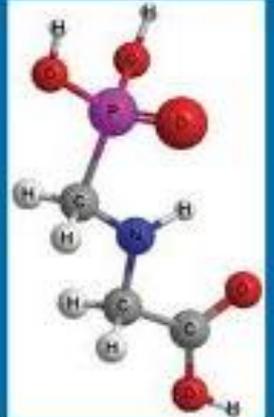


# In This Session:

- How Best to Talk to the Public About Pesticides?
- Information taken from National Pesticide Information Center at OSU  
<http://npic.orst.edu/factsheets/isitsafe.html>



**GLYPHOSATE**



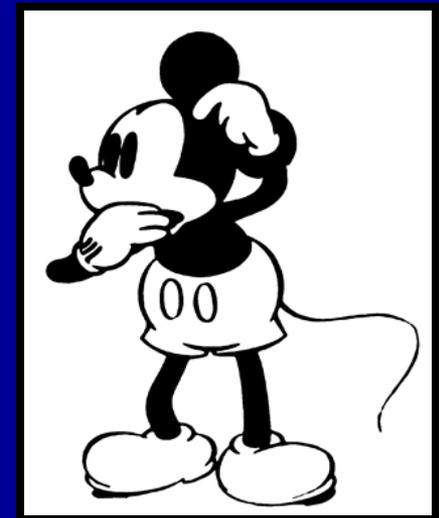
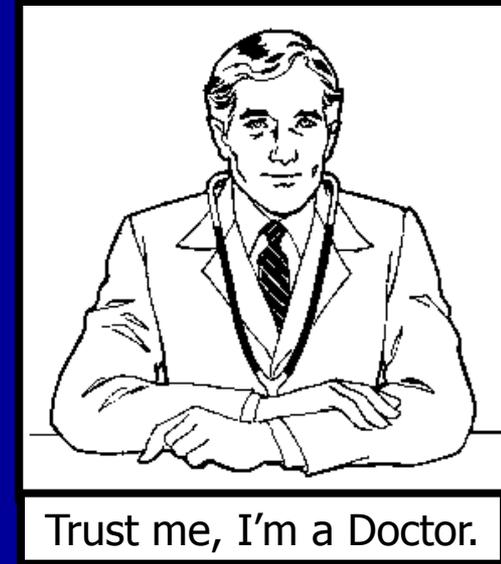
# Is It Safe?

- NPIC's tips for talking about pesticide risk with the public
- Question: Is it safe?
  - If you answer "It's so safe you can drink it" the client may think "No precautions are necessary"
  - If you answer "It's safe—trust me" the client may think "I don't need to do anything"
  - If you answer "It's non-toxic, all natural" the client may think "Natural products can't hurt me"



# "It's Safe"

- Imagine talking to your physician and asking about the safety of a new drug
  - The doctor may say "It's safe", which is **reassuring**, but you may still have some **questions** and want the **whole story**
- In the same way, someone may ask you about **potential risks** and **precautions**
- **How should you answer?**



# Ask Questions and Listen

- Many people have **specific reasons** why they are concerned—whether about their children, pets, or the environment
- **Listening** and **asking questions** shows you care about their **health and safety**



# What is an LD<sub>50</sub>?

- LD<sub>50</sub> = Lethal Dose for 50% of a test population (mg/kg of body weight)
  - 150 lbs = 68 kg
- LC<sub>50</sub> = Lethal Concentration for 50% of a test population (mg/L H<sub>2</sub>O)
- So, the bigger the number, the less toxic the compound (e.g., it takes more of the product to kill half the population)
- Less than lethal effects? Yup.

# Mammalian LD<sub>50</sub>'s\*

(mg/kg of body weight)

- Sugar (29,700) (4.46 lbs)

\*For a 150-lb person

# Mammalian LD<sub>50</sub>'s\*

(mg/kg of body weight)

- Sugar (29,700) (4.46 lbs)
- Ethanol (7060) (1.06 lb)

\*For a 150-lb person

# Mammalian LD<sub>50</sub>'s\*

(mg/kg of body weight)

- Sugar (29,700) (4.46 lbs)
- Ethanol (7060) (1.06 lb)
- Salt (3000) (7 oz)

\*For a 150-lb person

# Mammalian LD<sub>50</sub>'s\*

(mg/kg of body weight)

- Sugar (29,700) (4.46 lbs)
- Ethanol (7060) (1.06 lb)
- Salt (3000) (7 oz)
- Aspirin (200) (1/2 oz)

\*For a 150-lb person

# Mammalian LD<sub>50</sub>'s\* (mg/kg of body weight)

- Sugar (29,700) (4.46 lbs)
- Ethanol (7060) (1.06 lb)
- Salt (3000) (7 oz)
- Aspirin (200) (1/2 oz)
- Caffeine (192) (1/2 oz)

\*For a 150-lb person

# Mammalian LD<sub>50</sub>'s\*

(mg/kg of body weight)

- Sugar (29,700) (4.46 lbs)
- Ethanol (7060) (1.06 lb)
- Salt (3000) (7 oz)
- Aspirin (200) (1/2 oz)
- Caffeine (192) (1/2 oz)
- Nicotine (50) (1/10 oz)

\*For a 150-lb person

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(mg/kg of body weight)

- Sugar (29,700) (4.46 lbs)
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- Salt (3000) (7 oz)
- Aspirin (200) (1/2 oz)
- Caffeine (192) (1/2 oz)
- Nicotine (50) (1/10 oz)
- Strychnine (16) (0.04 oz)

\*For a 150-lb person

# How Much is a PPM?

- One ppm = one **milligram** of substance per **liter** of water
- One ppm = one **milligram** of substance per **kilogram** of soil
- By comparison, one aspirin tablet weighs about **370 mg**, and contains **325 mg aspirin** (acetylsalicylic acid)
  - 1 ppm aspirin would be achieved by dissolving **one tablet in 86 gallons of water**
  - 1 ppb is about **3 seconds in a century**

# How Much is Too Much?

- **NOAEL** (no observable adverse effect level) is derived from the toxicological studies
  - **Divided by 10**, because test animals are not human
  - **Divided by 10 again**, because some humans are more sensitive than others
  - An **additional 10-fold tolerance** to further reduce cancer risk from all possible exposures was recently adopted
- So, tolerances are now set based upon a **1000-fold safety factor** for human risk

# Discuss the Level of Risk Rather Than Safety

- So, as we have learned, **every compound is toxic** if the exposure is high enough
  - So no pesticide is **entirely safe**
- **Safety** is based on each individual's level of **risk tolerance** and is, therefore, **subjective**
- When talking to the public, consider explaining why it's better to talk about the **level of risk**



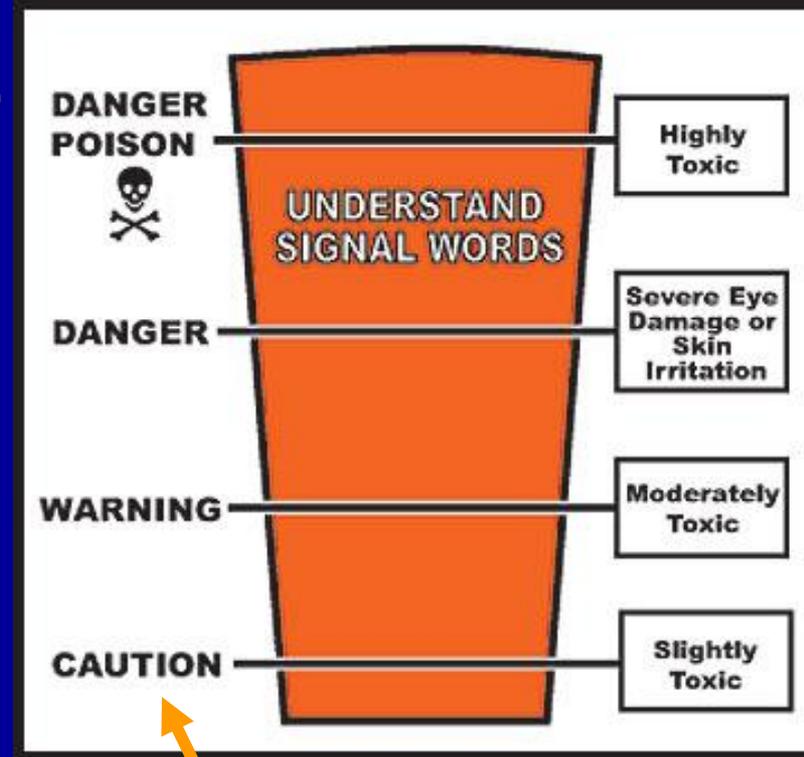
# Reframe the Question

- “Is it safe?”
  - Well, it’s not safe for the weeds!
  - It’s designed to **kill weeds**, so **it’s not 100% safe**
  - However, **your risk is low** and we always **take steps** to make it even lower
  - Let’s talk about your **concerns**, and the **toxicity of the chemical**, and then we can go over all the steps we have taken to **minimize any risks** to the public



# Remember the Equation?

- Risk = Toxicity x Exposure
- Toxicity is a **known factor**
  - You can talk about it using the **Signal Word**, or  $LD_{50}$ , or the product's **MSDS** (or other fact sheets readily available from NPIC or other sites)
- Exposure **can be managed**
  - People are more willing to accept a risk they feel they can control, so provide some optional ideas they can use to **minimize their exposure**



Found on the Pesticide Label

# Communicate Your Pest Management Approach

- Integrated Pest Management

- IPM uses physical, cultural, and biological measures as well as chemicals to **better control weeds**
- Use the **lowest toxicity** product that will **adequately control the weed**
- Allow herbicide to **dry for an hour** prior to walking on treated sites
- Do not treat **flowering plants** (to avoid impacting pollinators) or plants that are **currently bearing edible fruit** (like blackberries)



# Thresholds for Control

- Different locations require **different strategies** (roadsides vs. parks vs. playfields vs. riparian sites vs. lawns vs. farms)
- **High tolerance** for certain weed species
- **Low tolerance** for certain noxious weeds



# Refer People to NPIC

- 800-858-PEST (7378)
- NPIC Specialists are trained to tackle questions on challenging topics like **cancer**, **pregnancy**, and **environmental impacts** in an unbiased, science-based fashion





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