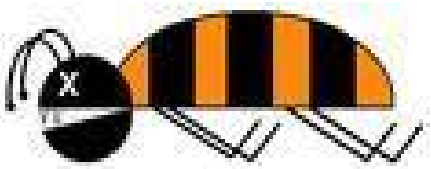
22 CFR 216
and
Pesticides

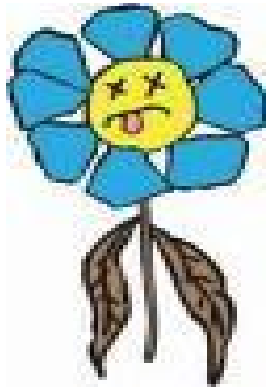
SPECIAL 22 CFR 216 ISSUE: PESTICIDES

- Pesticides are a commonly encountered element in both agriculture and health activities
- USAID has special procedures within 22 CFR 216 to address pesticide procurement and/or use
- You don't have to avoid using pesticides when they are needed, but you must ensure they are properly selected and safely used

So, What Exactly is a Pesticide?

- Pesticide is the generic term for any substance that destroys, prevents, repels, or mitigates an unwanted organism
- The US Government's experts on pesticides and regulation of them is EPA. As a USG agency, USAID goes only by EPA registrations and labels on safe and appropriate selection and use of pesticides





Types of Pesticides

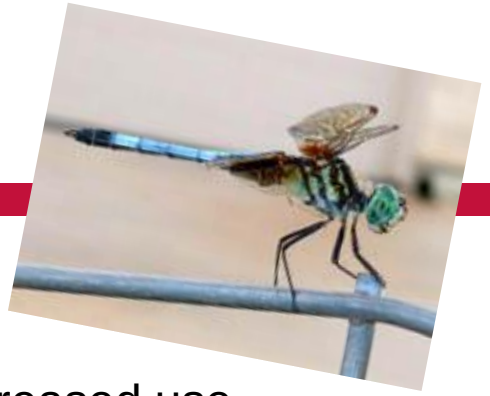
- Insecticides
- Herbicides
- Fungicides
- Rodenticides
- Microbicides
- Repellents
- Disinfectants

-Bleach is a Fungicide

And, What are Not Pesticides

- **Fertilizer**
- **Natural predators (birds, fish, cats, etc.)**
- **Mechanical devices (bug zappers, fly paper, harvesters, etc.)**
- **Internally taken drugs (for parasites)**

Why Care About Pesticides?



- Poor practice in using pesticides is wide-spread
  - Overuse accelerates pest resistance which induces increased use
  - Significant resistance requires switching to less safe and more costly pesticides
- As potent killing agents, pesticides have intrinsic dangers attached to their use
  - Misuse kills the “good bugs” that are essential to pollination or that naturally control the “bad bugs”
  - Misuse can result in chronic sickness, birth defects, cancers, and even death
  - Misuse can seriously impair a country’s ability to export to the U.S., Europe, Japan and other major markets
- The lack of quality control in the production in some developing countries represents a hazard with non-U.S. manufactured pesticides

Risks

- **Toxicity – LD-50 is the relative degree of poisonousness: the amount of pesticide, per unit of body weight, that will kill 50 per cent of the test rats who are exposed.**
  - **Class I through IV, Class I is Most Toxic**
- **Side Effects with some pesticides:**
  - **Carcinogen- Cancer Causing**
  - **Mutagen- Mutations**
- **Environmental Fate and Pollution- Surface and Ground Water or Soil Contamination**

Pesticides Work in Different Ways

- **Cholinesterase Inhibitors**
- **Anticoagulants**
- **Desiccants**
- **Growth modifiers**
- **Etc.**

You Really do Need an Expert

- **There are thousands of pesticides on the market.**

Which of these pesticides are safe enough to be used in a project in which USAID is involved:

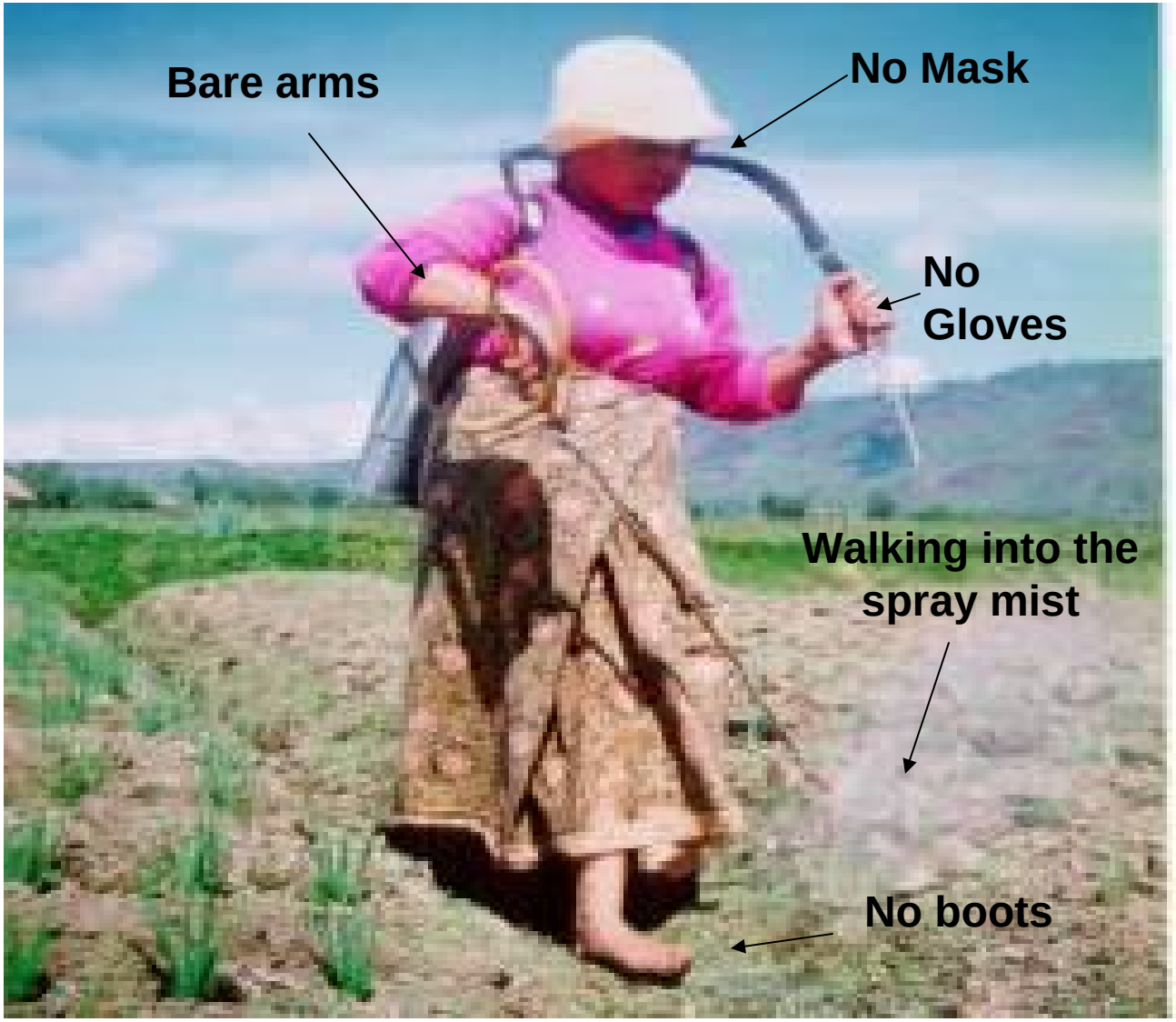
- **Furan**
- **Heptachlor**
- **Glyphosate**
- **Bacillus Thuringiensis**
- **2,4-D + 2,4,5-T**
- **Dieldrin**
- **Dichlorodiphenyltricloroethane**

What Not to Do

Mixing pesticides with bare hands

Pouring pesticide into sprayer without protection

Spraying pesticides with no protection



The result . . .

Skin lesions

and unfocused vision

- With an appropriate EIA, combined with monitoring during implementation, these health problems could have been avoided

Another Problem – Obsolete Pesticides ….

Cache of improperly stored, unlabeled obsolete pesticides

Damaged barrels leaking into dirt floor

- Proper disposal <u>starts</u> at $3,000 to $5,000 per ton, depending on which pesticides are found. Highly toxic ones are much higher.
- Costly site cleanup also needed after the barrels are removed

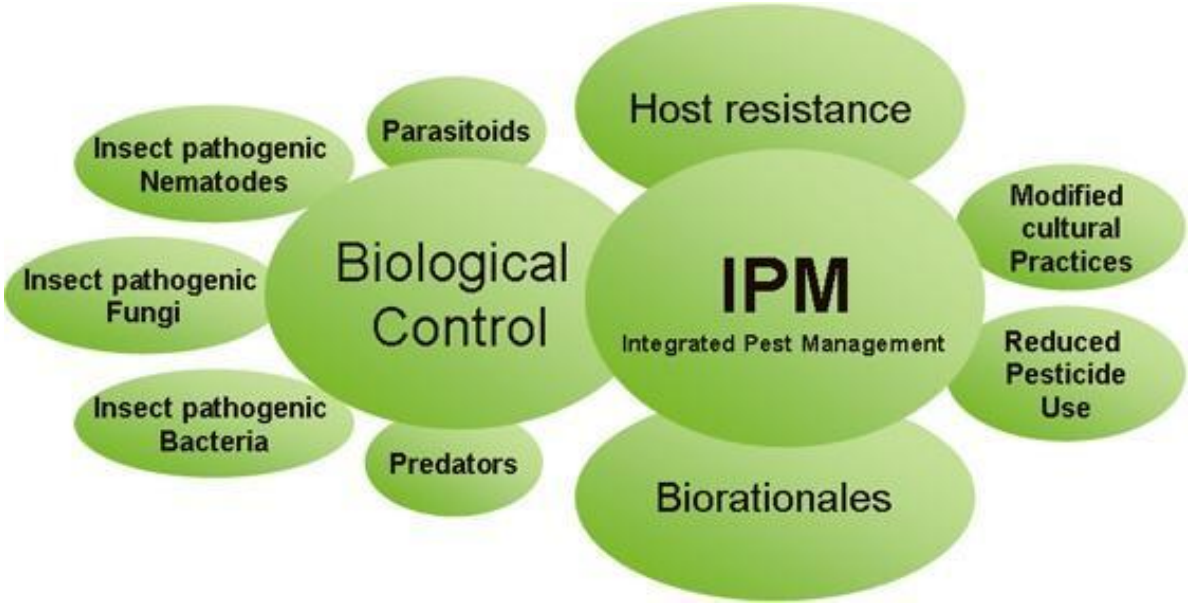
Capacity to Deal with Poisonings

- **No matter how well you design your project, if you are using pesticides you will have poisonings**
- **You need to minimize them, but you also need to create local capacity to identify and treat them**
- **Health clinics, doctors, hospitals need training and treatments such as:**
  - **Atropine**
  - **Pralidoxime**
  - **Emetics**
  - **Activated Charcoal**
  - **Etc.**

USAID AND INTEGRATED PEST MANAGEMENT (IPM)

IPM aims at controlling pest populations by anticipating pest problems and preventing the damage they cause with minimal chemical use

- Respond to clearly identified pests and their consequences
- Evaluate non-pesticide management options
- Use least toxic, safest pesticides and only as actually needed



It is USAID policy to rely on Integrated Pest Management (IPM) as the framework for every activity (agricultural, health or other) that involves pesticide procurement or use

PESTICIDE PROCEDURES – 22 CFR 216.3(B)

•Applies to every project that will procure, use, or recommend for use one or more pesticides

•For proposed use or procurement of pesticides the IEE or EA must address the 12 factors outlined in 22 CFR 216.3 (b)(1)(i). This analysis is commonly referred to as a "Pesticide Evaluation Report and Safe Use Action Plan" (PERSUAP).

- EPA registration status
- Basis for selection
- Extent IPM is used
- Application methods and safety equipment
- Toxicology and mitigation measures
- Efficacy

7. Target vs. nontarget species
8. Site's natural conditions
9. Availability of alternatives
10. Country's ability to control and regulate pesticides
11. Training for uses
12. Monitoring provisions

Useful Web Sites

- www.epa.gov/pesticides/reregistration/status.htm
- www.pmep.cce.cornell/edu/profiles/extoxnet
- www.pesticideinfo.org (Pesticide Action Network (PAN) Pesticide Database)
- www.epa.gov/pesticides/safety/healthcare/handbook/handbook.htm (English and Spanish versions of pesticide poisoning recognition handbook)

Note: The information in these websites is useful for development professionals but does not substitute for an expert to apply it correctly