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Emergency Preparedness for Outbreaks of Insects and Arthropod Vectors and Communicable Pests

Appropriate Pesticide Use in Emergency Situations

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Appropriate Pesticide Use in Emergency Situations

- Basic Pesticide Information
- Regulation of Pesticide with Public Health Uses
- Pesticide Emergency Exemptions- FIFRA § 18 and 24 (c)
- Planning for Emergencies (environmental and public health)
- Understanding Pest Management
- Selecting a Pesticide
- RUP use in Indian country
- Pesticide Security, Storage, Handling, and Disposal
  - Formulations
  - SOP's
  - SDS
- Personal Protective Equipment (PPE) and Hazard Recognition

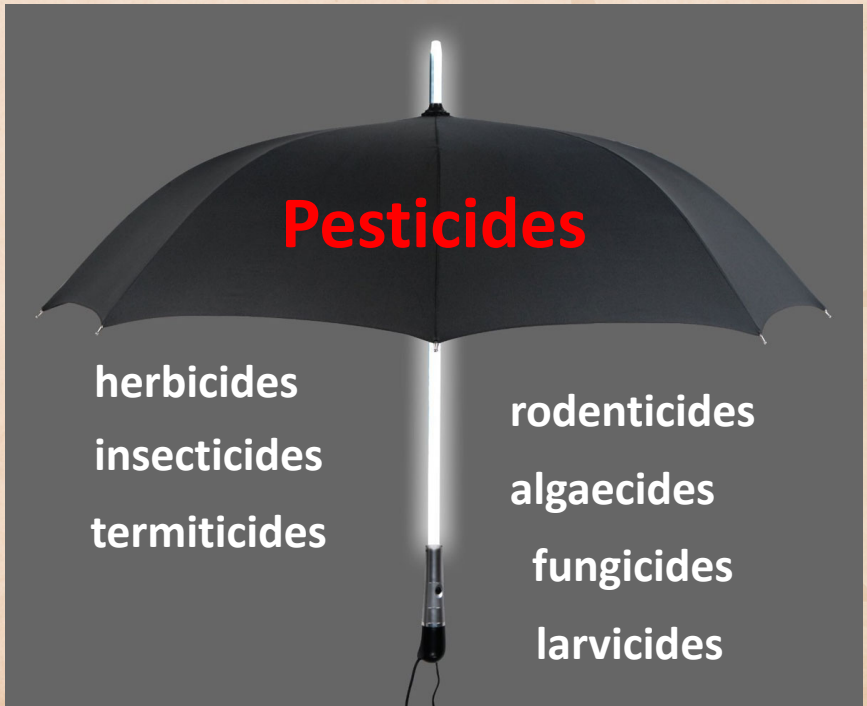
What is a Pesticide?

Any substance or mixture of substances that is intended to…

DESTROY **PREVENT** **MITIGATE**

REPEL **ANY PEST**

"cide" is a word forming element meaning "to kill" in Latin



Pesticide Basic Information and Statutory Authority

EPA regulates the use of pesticides under the authority of two federal statutes

- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
- Federal Food, Drug, and Cosmetic Act (FDCA)

- FIFRA regulates the distribution, sale and use of pesticides
- All pesticides must be registered (licensed) by EPA
- FDCA enforces tolerances established by the EPA for amounts of pesticide residues

Regulation of Pesticides with Public Health Uses

- Registration- Through registration, EPA evaluates pesticides to ensure they can be used effectively without posing unreasonable risks to human health and the environment.

- Registration Review- Through registration review, EPA reviews registered pesticides every 15 years to ensure they meet current scientific and regulatory standards.

- Emergency Exemptions and Special Local Needs- In cases where unexpected public health issues arise, EPA works to make pesticides available to states or federal agencies for emergency and special local need uses.

Pesticide Use as Part of a Public Health Program

- Exposure
- Efficacy
- Benefits

FIFRA § 18- Emergency Exemptions

- FIFRA § 18 authorizes EPA to allow Emergency Exemptions for unregistered uses of pesticides to address emergency conditions.
- Limited use of the pesticide
- Most requests are made by a State Agricultural Agency, although USDA and USDI also request exemptions for the use of unregistered pesticides OR a registered pesticide for an unregistered use for a limited time.
- Problem situation is identifies which registered pesticides will not alleviate.

Types of emergency exemptions:

- Specific
- Quarantine
- Public Health
- Crisis

FIFRA § 24 (c)- Use for Special Local Needs

- FIFRA § 24(c) authorizes states to register an additional use of a federally registered pesticide product, or a new end use product to meet special local needs.

- Mostly for additional uses not authorized by the federal label.
  - Example: applying a pesticide to a different pest to address an outbreak of disease
  - Adding an alternative application method .


RESTRICTED USE PESTICIDE
For retail sale to and use only by Certified Applicators

syngenta.

FIFRA

Section 24(c) Special Local Need Label

FOR DISTRIBUTION AND USE ONLY WITHIN THE STATE OF MINNESOTA

DICAMBA	GROUP	4	HERBICIDE
S-METOLACHLOR	GROUP	15	HERBICIDE

TAVIUM® PLUS VAPORGRIP® TECHNOLOGY

EPA Reg. No. 100-1623
EPA SLN No. MN-200004

ADDITIONAL APPLICATION RESTRICTIONS FOR USE ON DICAMBA-TOLERANT SOYBEANS

KEEP OUT OF REACH OF CHILDREN
CAUTION

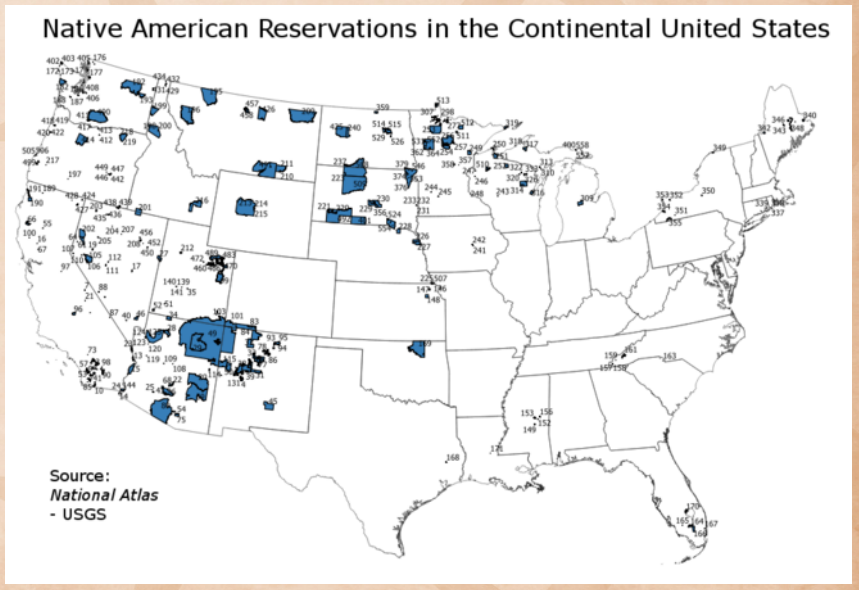
DIRECTIONS FOR USE

- It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
- This label must be in the possession of the user at the time of application.
- Refer to the Tavium® Plus VaporGrip® Technology container label, EPA Reg. No. 100-1623, for complete

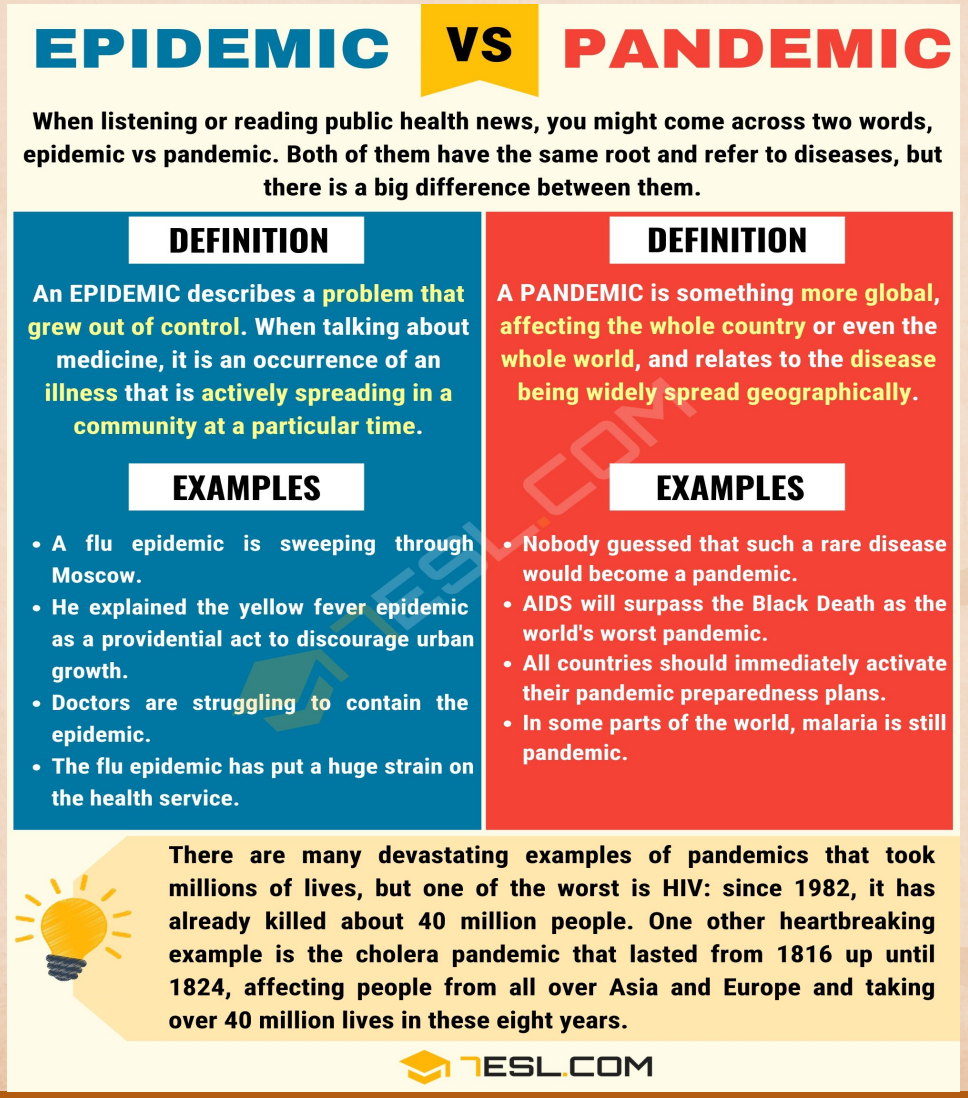
FIFRA § 18 and 24 (c) On Tribal Lands

FIFRA is silent on whether the benefits of § 18 and 24 (c) are available to tribes and farmers in Indian Country.

Tribes and farmers in Indian Country do not explicitly have access to the full range of options available to addressing an emergency situation or special local need. Tribes will need to work directly with the state or federal agency.



Pesticides and Planning for Emergencies

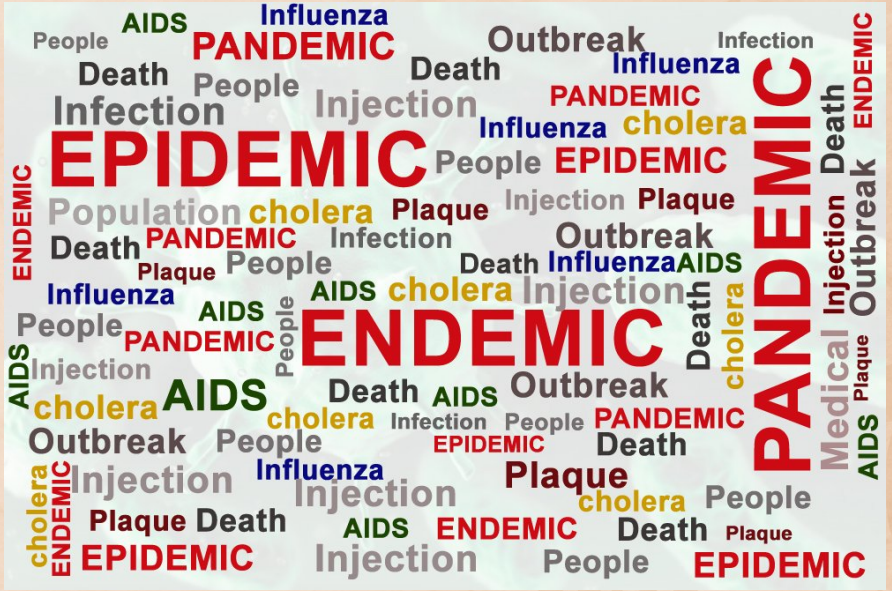


Epidemic vs pandemic

- Epidemic is a widespread occurrence of an infectious disease in a community at a particular time.
- Pandemic is an epidemic of world-wide proportions; a global disease outbreak.

Pesticides and Planning for Emergencies

- What to do with pesticides in case of a fire, spill, explosion, and other accidents?
- Examples of Environmental/Natural/Public Health Emergencies
  - Flood
  - Hurricane
  - Tornadoes
  - Volcanic eruptions
  - Heat waves/drought
  - Storms, monsoons
  - Influenza outbreak
  - West Nile Virus outbreak
  - Rocky Mountain Fever outbreak
  - Bed Bug outbreak?



- What is considered a public health emergency?

"an occurrence or imminent threat of an illness or health condition, caused by a bio terrorism, **epidemic or pandemic** disease, or a novel and highly fatal infectious agent or biological toxin."

Pesticides and Planning for Emergencies

What do you do if:
Someone is injured from pesticide exposure?
A fleet vehicle overturns while transporting pesticides?
A building is on fire and is near chemical storage tanks?
Spill resulting from transfer of chemicals?
What is your role and responsibility?
Initiating a public health response, coordinated with emergency response structures, setting up EOC, first responder, etc.

Control
Contain
Clean up

Pesticides and Planning for Emergencies

- **Emergency Response Plan –** capability of public health and health care systems, communities, and individuals, to prevent, protect against, respond to, and recover from health emergencies.

- **Contingency Plan-** minimize the severity of an emergency and the extent to which business is disrupted. A trained workforce can minimize the immediate and long-term impacts of an emergency. A list of phone numbers and people to notify should be included.

- **Workplace Hazard Assessment**
  - Handling a particular pesticide
  - Activity may include mixing concentrated pesticides
  - Working in proximity to harmful chemicals
  - Inventory of pesticides in storage areas

OSHA 29 CFR Part 1910.132 states that "the employer should assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment."

Understanding Pest Management

The most effective strategy for controlling pests is to combine methods in an approach known as **Integrated Pest Management (IPM)**

- Prevention
- Identification
- Monitoring
- Setting Thresholds
- Take Action

Types of Pesticide Formulations

A pesticide formulation is a mixture of chemicals which effectively controls a pest. It is a mixture of active and inert ingredients.

- Liquid Formulations
- Bait
- Dust
- Granule
- Pellet
- Ready-to-use
- Solutions
- Liquid and dry flowables
- Aerosols
- Soluble and wettable powder
- Ultra-low-volume concentrate
- microencapsulated

Selecting a Pesticide

Pesticides consist of one or more active ingredients and inert ingredients

- Active Ingredients are the chemicals in the product that are actually meant to kill or repel the pest.
  - Glyphosate (Roundup)
  - Bifenthrin (synthetic pyrethroid) (Talstar)
    - Insecticide, interferes with the nervous system of insects when they eat or touch it.
    - Sprays, granules, and aerosols
- Inert Ingredients or "other" ingredients
  - Any substance other than the active ingredient
  - Range from 0-99%
  - Emulsifiers, solvents, carriers, aerosol, propellants, fragrances and dyes

Using Pesticides Safely and Correctly

- Read the Label
- Be familiar with ALL precautions
- Be familiar with First Aid information
- Put on the proper Personal Protective Equipment

When mixing or applying the pesticide

- Never smoke or eat while mixing or applying pesticides
- Follow the Directions for Use
- Always mix or dilute the pesticide outdoors or in a well-ventilated area
- Mix only the amount that you need for each application
- Keep children, pets, and toys away from areas where you mix and apply pesticides
- Consider selective pesticides vs broad spectrum
  - When an insecticide causes less harm to the natural enemies than the pests, it is a **selective insecticide.**
  - Insecticides that are not selective or kills wide range of insects including natural enemies, are called **broad-spectrum.**

Selecting a Pesticide

- Select General Use Pesticides vs. Restricted Use Pesticides
- Select products that have the signal word CAUTION instead of WARNING or DANGER
- Select products that are packaged to reduce the risk of exposure or spillage
- Select products for which Safety Data Sheets do not indicate long-term effects
- Do not require more that minimal PPE.

Read the Label Activity

Scenario

Your tribal community will start pesticide applications in April to eradicate the Brown Dog Tick. A task force has been assigned to go to each home and spray the outside perimeters of your home. Some homes are treated with granules and other homes are sprayed. They are schedule to spray next week and rain is anticipated in the next couple of days.

You have two dogs that are mostly outdoors, three children under the age of 10, a swing set and trampoline outside of your home.

As a homeowner, what questions would you ask the “applicator” in regards to the pesticide treatment?

Pesticide Storage, Handling, and Disposal

- Designate individuals to handle pesticides.
- Train designated pesticide handlers on the specifics of handling, mixing, and applying the products they use.
- Provide pertinent literature, e.g., SDSs, Hazard Communication Plan.
- SDS contains information pertaining to properties of each chemical; physical, health and environmental hazards; protective measures; safety precautions for handling, storing, and transporting the chemical.
- Maintain proper storage of chemicals in inventory and store in their original containers and keeping up-to-date inventory.
- Ensure good ventilation in pesticide storage areas- temperature matters
- Provide proper secondary containment in mixing, loading, and storage areas.
- Train personnel on proper personal hygiene and decontamination procedures (washing hands, laundering clothes, etc.)
- Enforce good housekeeping practices to reduce workplace exposure and accidents.
- Pesticide Labels should always be visible on the original containers and SDS sheets should be maintained in an accessible space.

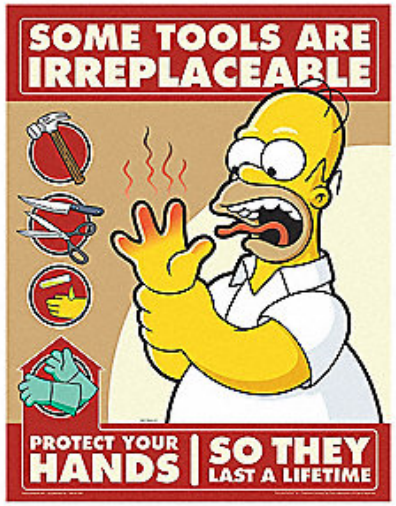
Pesticide Storage, Handling, and Disposal

Pesticide Storage, Handling, and Disposal

PPE and Hazard Recognition

PPE is the last line of defense between YOU and the HAZARD

- Personal Protective Equipment (PPE) is used as a temporary or last line of protection for workers against hazards. The PPE you use will depend on the work environment, the work conditions, and the process being performed.
- It is important to wear the right PPE as it does not reduce the workplace hazard or guarantee permanent or total protection.
- When PPE is not enough, you should ensure the required level of protection:
  - PPE should be selected considering the type of hazard and the degree of protection required.
  - PPE should be useable in the presence of other workplace Hazards.
  - Users should be trained in proper use and fit of the PPE.
  - If PPE is found to be defective, it should be discarded and replaced.



The Four Phases of Emergency Management

Thank You!

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