Human Health and Pesticides
Outline

• Pesticides are important!
• Health benefits
• Health dangers
• How people are exposed
• Pesticides and the body
• Specific illnesses/injuries due to pesticides
• How to prevent and identify exposure
Pesticides are important!

- Pesticides are a valuable tool in modern agriculture.
- Component of Integrated Pest Management
- Many pesticides can be used safely, but like all tools, care must be taken when using.
Health benefits

- Bacteria killed by chlorine in drinking water
- Bacteria spread in hospitals managed by disinfectants
- Disease carrying insects repelled by insecticides

Health dangers

• There are also dangers associated with pesticides. These include acute and chronic effects.

• Acute
  – Headache, nausea, skin irritation, rash, etc.

• Chronic
  – Cancer, reproductive and nervous system problems, organ damage

How are people exposed to pesticides?

• During application
• Preparing for application (mixing)
• Drift
• Consuming foods with residue
• Drinking contaminated water
• Residues brought into the home
Pesticides and the body

- Three routes of pesticide entrance into body:
  - Skin
    - Absorbed during contact with skin or eyes
    - Body parts absorb at different rates
  - Mouth
    - May be very serious
    - Can occur when pesticides are stored improperly
  - Lungs
    - Can enter bloodstream quickly, damage respiratory tissue
    - Powders and small droplets/mist inhaled

Prostate cancer

• What is prostate cancer?
• Risk factors for prostrate cancer include farming.
• Risk increases for pesticide applicators by
  – 41% in commercial applicators
  – 27% in private applicators

Retinal degeneration

• What is retinal degeneration (RD)?
• RD and fungicide application may be related
• RD and insecticide application may be related

Parkinson’s disease

• Risk of Parkinson’s disease, when a certain combination of pesticides were applied near homes in California, increased 75%.
• Younger people have higher risk when exposed.

Thyroid disease

- Thyroid disease increased in women married to pesticide applicators.
- Certain pesticides correlated with increased risk.

How to prevent exposure

• Follow label directions
• Wear personal protective equipment
• Apply pesticides during the right environmental conditions
• Spray only when you need to
Personal Protective Equipment
Pesticide exposure symptoms

• Dependent upon pesticide, amount, and type of exposure
• Range from skin irritation, headache, and nausea to incontinence, seizures, and death
• Can be confused with other illnesses

What to do in case of emergency

• If serious conditions such as convulsions, difficulty breathing, or unconsciousness occur, call 911.

• The label supplied with the pesticide should have instructions on administering first aid.

• For first aid help, the Poison Control Center can be reached at 1-800-222-1222.

Conclusions

- Pesticides are an important tool in modern agriculture.
- Consider both the *risks* and *benefits*.
- Caution must be taken when using pesticides.
- Follow the label for correct application.
- Wear personal protective equipment.
- Be safe and watch out for the safety of others!