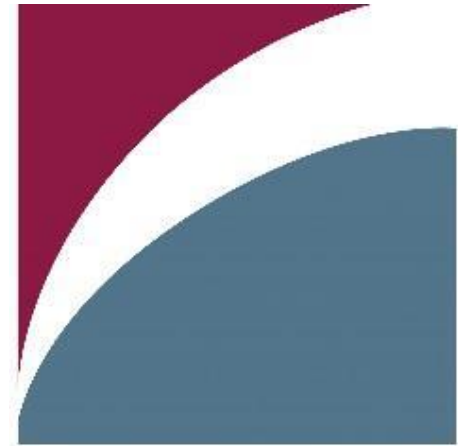


Transportation, Storage, and Spill Response



**Virginia
Cooperative
Extension**

Virginia Tech
Virginia State University

Pesticide Recertification

Shawn Appling, *Associate Extension Agent*

VCE-Culpeper

Objectives for review

- Pesticide Transportation
- Storage
- Spill Management
- Laundering

Transportation

- Be prepared!
- Vehicle safety
 - back of truck (lined with side and tail racks)
 - never in a passenger area
 - never allow anyone to ride with pesticides
 - never transport other items with pesticides
 - never leave vehicle unattended
 - transport highly volatile pesticides separately to avoid contamination

Vehicle Operator

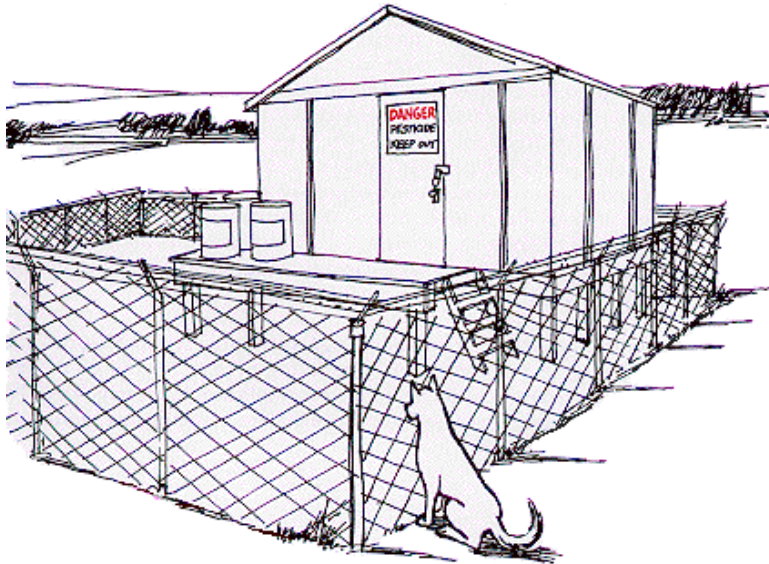
- Owner and operator can be liable for damages that occur during transport of pesticides
- Driver should be trained in spill control procedures
- Some pesticides considered HAZMAT, even empty containers
- DOT regulates vehicle placarding, inspecting before use, training, licensing background checks and record keeping

Transporting Containers

- Keep intact with readable labels
- Inspect before loading
- Handle carefully
- Anchor securely and cushion
- Protect from moisture
- Protect from temperature extremes
- Adhere to DOT requirements



Storage



- Establish a storage site
 - protects people and animals from exposure
 - protects environment from contamination
 - prevents damage to pesticides
 - temperature and moisture extremes
 - prevents theft, vandalism, unauthorized use
 - reduces liability
 - legal and insurance requirements

Storage Basics

- Secure the site
- Prevent water damage
- Control temperature
- Provide adequate lighting
- Use non-porous materials
- Prevent runoff
- Provide clean water



Maintain the Storage Site

- Prevent contamination
- Keep labels legible
- Keep containers closed
- Use original containers
- Watch for damage
- Store volatile products separately
- Isolate wastes
- Keep an accurate inventory
- Monitor shelf life



Containment Systems

- **Collection Trays**

- Portable
- When *small* amounts of pesticides are used
- For portable equipment
- **MUST** have a rim around it and a spout to pour out contents.



Containment Systems

- **Collection Pads**

- When *large* amounts of pesticides are used
- Made of waterproof material
- Must have curbs, walls or be concave to hold largest amount of spill likely to be created
- Must be equipped with pump for recovering spilled material
- Locate where water cannot flow over it.
- Wash pad at end of day



The 3 C's of Spill Management

- **Control** the Spill!
- **Contain** the Spill!
- **Clean** It Up!

Control the Spill!

- Protect yourself
- Stop the source
- Protect others
- Stay at the site



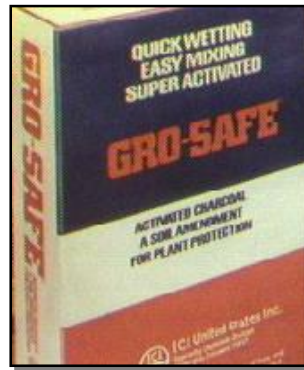
Contain the Spill!

- Confine the spill
- Protect water sources
- Absorb liquids
- Cover dry materials



Clean It Up!

- Clean up spill
- Decontaminate site
- Neutralize site
- Decontaminate
 - equipment
 - yourself
- Follow up
 - Report to VDACS
 - VDOT on highway, police/fire local roads

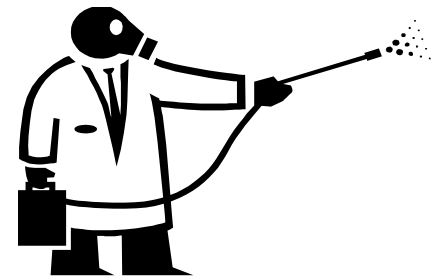


Spill Kit

- Cell phone/emergency numbers
- Chemical resistant gloves, footwear, apron, coveralls
- Protective eyewear
- Appropriate respirator
- Absorbent materials
- Sweeping compound for dry spills
- Heavy Duty Detergent
- Containment tubes
- Broom, Scoop, Shovel
- Plastic container that can be tightly closed
- Any spill equipment on label
- Warning tape
- Fire extinguisher
- Spray bottle of water

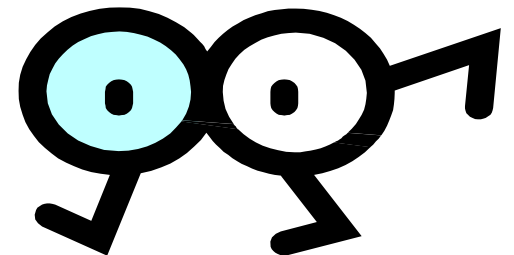
Laundering Pesticide-Contaminated Clothing:

- Pesticide contamination can occur from dermal exposure
- Pesticides can penetrate the skin due to:
 - Drift
 - Spills
 - Contact with residues on surfaces (ex. in or on contaminated clothing)



Fiber Content of Clothes & Pesticides

- 100% cotton, 50/50 cotton/polyester blends make no significant difference in the amount of pesticide removed.
- 100% polyester garments allow more penetration of pesticides and **SHOULD NOT BE WORN!**
- *ALWAYS REMEMBER TO READ YOUR GARMENT LABELS!*



Treat or Pretreat Garments with:

- Scotchgard RTM or Zepel RTM reduce absorption and give a barrier
 - It is **temporary** and should be re-applied after every **second** laundering
- Treatment requires more vigorous laundering treatment to remove pesticide residues
- Pre-wash spot and stain removers are recommended. Examples are ShoutTM and Spray' n WashTM

- Use disposable protective clothing if at all possible to limit contamination of clothing.
- Remember to always use chemical-resistant gloves.



Washing Contaminated Clothing

- Who is doing the Laundry????
- Pesticide contaminated clothing may pose a risk not only to the applicator but to the person doing the laundry and other family members and pets!
- *Tossing contaminated articles into the FAMILY WASH can TRANSFER the residue to other garments!*

Risks can be lowered by:

- Discarding clothing saturated with highly toxic, undiluted pesticides **before entering the house.**
- Pre-rinse garments TWICE in hot water prior to washing

- ***SEPARATE*** FROM OTHER FAMILY LAUNDRY
- LAUNDRER ***ASAP***, PREFERABLY ***DAILY***
- LAUNDRER ONLY A ***FEW*** ITEMS AT A TIME

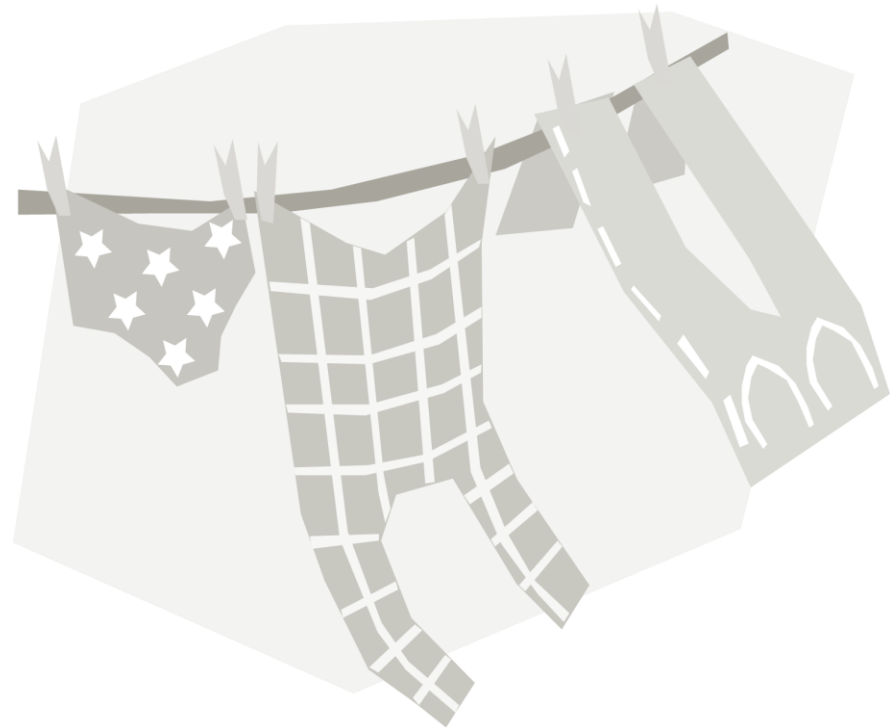


Washing

- USE **HOT** WATER (140°F) - Extra large load setting. Regular/normal 12 minute wash-spin cycle, double rinse.
- USE **LONGEST WASH CYCLE** - IF YOUR WASHER HAS A SUDS-SAVER, DISENGAGE IT.
- USE THE RIGHT DETERGENT (HEAVY DUTY).

After washing

- **CLEAN WASHER AFTER USE WITH *COMPLETE* CYCLE USING HOT WATER AND DETERGENT.**
- **LINE DRY CLOTHES IF POSSIBLE TO KEEP FROM CONTAMINATING THE DRYER.**



Pesticide Clothing Safety -- What can YOU do?

- Wear clean clothes daily.
- Follow precautionary labels on the pesticide in choosing protective gear.
- Wear protective aprons and waterproof gloves during mixing and loading of pesticides to protect from spills.

Remember, all pesticide spills are chance events.

- Remove your pesticide-soiled clothing outdoors and away from the house.
- If granular pesticide has been used, shake clothing outdoors and empty pockets and cuffs.
- If pesticide has left a stain, use a pre-wash product or rub heavy-duty liquid detergent into the stain prior to the wash cycle.
- **Discard** all clothes that have been saturated with full-strength liquid pesticide concentrate.

Leather Items

- Leather watch bands, boots, and gloves cannot be decontaminated. When contaminated leather is worn and becomes damp, the person is exposed to the pesticide again.

If/when contaminated, leather items should be discarded because of this hazard.

Questions?



Contact information

VCE-Culpeper

101 South West Street Culpeper, VA 22701

8am-5pm, M-F

540-7273435 ashawn6@vt.edu