Chapter 26: Mixing & Loading

- During mixing & Loading, risks are high:
  - Easily exposed to pesticides when handling and pouring from open containers
  - Most concentrated form
  - Water source may be vulnerable
  - Spills can occur
Mixing & Loading

- Before mixing & Loading
  - Double-check label and calculations
  - Only mix what you will apply for job at hand
Mixing & Loading

• Mixing and Loading Site should be:
  
  • Outside and well ventilated
Mixing & Loading

- Mixing and Loading Site should be:
  - Outside and well ventilated
  - Well lit
Mixing & Loading

- Mixing and Loading Site should be:
  - Outside and well ventilated
  - Well lit
  - Away from people, livestock, pets, food, feed
Mixing & Loading

- Protect surface and ground water by locating site:
  - Away from wells, surface water, drains and ditches
Mixing & Loading

- Protect surface and ground water by locating site:
  - Away from wells, surface water, drains and ditches
  - In an area where slope is away from these sources
Mixing & Loading

- Protect surface and ground water by locating site:
  - Away from wells, surface water, drains and ditches
  - In an area where slope is away from these sources
  - At the application site or over an impervious pad if always use the same site
Mixing & Loading

Water Source for Spray Mix

- Know your water source
  - Some pesticides will break down quickly with pH > 8.0
  - Best range is pH 4-6
Mixing & Loading

- Use **plastic** measuring tools – metal can react and glass is too brittle.

- **Closed Handling systems** are safer and reduce spills by enclosing the whole container during dispensing and automatic rinsing.
Water Soluble Packets (WSP)

- A “plastic”-like bag containing a pre-measured amount of wettable powder or soluble powder which dissolves when added to the water in a spray tank.

- Less contact with pesticide – safer

- Must be added to the tank first since they can be difficult to break down, especially in cold / hard water.
Mixing & Loading

Emptying Pesticide Containers

Rinse right away after emptying a container so you have a way to get rid of the rinse water (rinsate) – dump it into the spray tank.
Mixing & Loading

Emptying *Liquid* Pesticide Containers

**Triple-Rinse!**

1. Let container drip into tank
2. Fill 1/5 full of water (or other carrier)
3. Secure cap and shake
4. Remove cap and dump into spray tank
5. Repeat 2 more times

…Or it can be pressure-rinsed (*equivalent*)
Mixing & Loading

Emptying *Dry* Pesticide Containers

1. Empty into spreader or other equipment
2. While over the opening, cut off the opposite end of the bag and shake out rest of material into hopper
3. Throw away bag
Mixing & Loading

Mixing 2 or more pesticides together…

- Only if it is not prohibited by any of the product labels
- Timing must be right for all pesticides in mix
- Application method must be appropriate for each
- Mixing will not cause adverse effects
Mixing & Loading

- Pesticide Incompatibility
  - Physical incompatibility: forms paste, separates into layers, or precipitates
  - Do jar test – directions will be on label

- Chemical incompatibility: no visible change but may give off heat or some other indication – effectiveness of one or both will be reduced
Order for tank mixing if not on label:

- First fill your tank ¼ full of water and add your compatibility or buffering agents…

  W –
  A –
  L –
  E –
Mixing & Loading

Order for tank mixing if not on label:

• First fill your tank ¼ full of water and add your compatibility or buffering agents...

  W – (wsp!, then wettable ____, water___)
  A –
  L –
  E –
Mixing & Loading

Order for tank mixing if not on label:

- First fill your tank ¼ full of water and add your compatibility or buffering agents...
  
  \( W \) – (wsp!, then wettable ____, water____)

  \( A \) – Agitate!

  \( L \) –

  \( E \) –
Mixing & Loading

Order for tank mixing if not on label:

- First fill your tank \( \frac{1}{4} \) full of water and add your compatibility or buffering agents...

  \begin{align*}
  W & \quad (\text{wsp!}, \text{ then wettable } \_\_\_, \text{ water}\_\_)
  
  A & \quad \text{Agitate}
  
  L & \quad \text{Liquids!}
  
  E & \quad
  \end{align*}
Mixing & Loading

Order for tank mixing if not on label:

- First fill your tank ¼ full of water and add your compatibility or buffering agents...

  W – (wsp!, then wettable ___, water__)
  A – Agitate
  L – Liquids
  E – Emulsifiable Conc.!