

I PROPER TANK MIXING PROCEDURES

Every year when application season rolls around, the number of customer calls concerning tank-mix compatibility problems increases. In most cases these issues can be traced to simple product management practices that will eliminate most concerns. The most common issues are:

- Incorrect product mixing order.
- Incomplete mixing of product prior to adding a second product.
- Lack of agitation of product: inadequate bulk storage tank or mini-bulk tank recirculation before use, package product not shaken well, no agitation action in spray tank.
- Spray tank contamination or not clean.
- Product sitting overnight in the spray tank.
- Due to poor quality water sources being utilized for spraying.

Other factors that can make mixing more difficult are cold temperatures of the carrier (water, liquid fertilizer) that is common during early spring seasons. Under these conditions, it is important to maintain adequate agitation to ensure proper suspension of the product. Lack of carrier volume may cause problems while mixing products.

I OTHER TANK-MIX GUIDELINES

- If a known product compatibility issue exists or the water or fertilizer carrier is cold, a compatibility agent may be used to help with mixing problems.
- UNFOAMER® may be used if excessive foam is a problem. Surfactant-loaded glyphosate products or organo-silicone surfactant products may cause excessive foaming.

I MIXING WITH GLYPHOSATE OR GLUFOSINATE FORMULATIONS

The following guidelines can be utilized throughout the season to avoid tank mixing problems:

- Fill the spray tank half full with carrier (water or fertilizer). Make sure the agitation system is engaged and working properly.
- If glyphosate or glufosinate (Liberty®) is to be mixed, a water conditioning agent should be added to the spray tank first, such as WeatherGard Complete or Choice Weather Master.

I FORMULATION ABBREVIATIONS

DF - Dry Flowable

EC - Emulsifiable Concentrate

EW - Emulsion in Water

F - Flowable liquid

ME - Micro-encapsulated

OD - Oil Dispersion

S - Solution

SC - Suspension Concentrate

SG - Soluble Granule

SP - Soluble Powder

WDG - Water Dispersible Granule

WSP - Water Soluble Packet

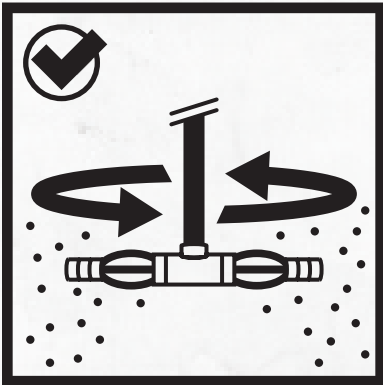
W.A.L.E.S/D.A.L.E.S MIXING ORDER FOR CHEMICAL FORMULATIONS

Pesticides should be added to the tank using the **W.A.L.E.S** or **D.A.L.E.S** method to help avoid mixing issues.

- Fill spray tank $\frac{1}{4}$ - $\frac{1}{2}$ full with carrier. Be sure agitation system is in working order.
- Add water conditioner and any compatibility agents if needed.



W or D | Dry formulations should be added to the tank first such as: wettable powders (WP/W), water dispersible granules (WDG), water soluble packets (WSP), dry flowable (DF). Be sure dry products are thoroughly dissolved prior to adding other products.



A | Agitation should be continuous and provide enough action to “roll” the surface of the carrier.



L | Add liquid (L), flowable (F), soluble concentrate (SC), formulations next.



E | Emulsifiable Concentrates (EC) should be added next. Micro-encapsulated (ME) formulations should be added after the EC product.



S | Add surfactants and other adjuvants last. This includes crop oils, drift control agents, etc. Final step is to fill the tank with the remainder of the needed carrier and continue agitation.

Contact your local Crop Production Services location with questions and help with tank-mixing.