



## W.A.L.E.S. and D.A.L.E.S.

Many mixing problems start when the carrier temperature is cold or when additives and chemicals are added in the incorrect order.

Dry products are generally added to the tank before liquids or flowables. If liquids are added first, the oils or emulsifiers they contain can coat dry products and prevent contact with water. The proper sequence for adding chemicals to a spray tank can be easily remembered with the **W.A.L.E.S.** or **D.A.L.E.S.** acronyms.

- W** Refers to dry formulations such as wettable powders (WP, W) and water dispersible granules (WDG). WDG and DF are used synonymously.
- D** Refers to dry flowables (DF). Some DF products are packaged in water-soluble packets. These formulations should be added first to a tank that is one-fourth to one-half full of carrier. Always allow these packets to disperse fully before adding liquid formulations, oils or surfactants. Gel packs should be soaked for two minutes in a small amount of water before agitation. When using **IN-PLACE**® with DF or WP formulations, add it to the spray tank before surfactants are added.
- A** Means agitate to fully disperse the chemicals. Create a rolling surface action. Begin agitation before adding any chemicals. Excessive agitation can create foam.
- L** Means liquids or flowables.
- E** Means emulsifiable concentrations (EC). When using **IN-PLACE** with EC and aqueous solution (AS) formulations, it must be pre-mixed before adding it to the spray tank. Contact your Wilbur-Ellis representative for complete mixing information.
- S** Surfactants or oils are generally added last. Add compatibility agents, if needed, first. Organosilicone-based surfactants (**SYL-COAT**® or **SYL-TAC-EA**®) may cause excessive foaming. Add to the tank last or use an anti-foam agent. If used, ammonium sulfate containing products (**BRIMSTONE**®, **BRONC**®, **BRONC MAX**, **BRONC MAX EDT**, **BRONC PLUS DRY**, **BRONC PLUS DRY EDT**, **CAYUSE**® PLUS, or **CUT-RATE**®) should be added to the tank first.

Other additives that should be added to any tank mix first are products used to adjust spray water pH. Products that lower pH like **DENALI-EA**® and **TRI-FOL**® should always be added to the tank first before spray materials. If raising pH to improve solubility is the objective, **CLIMB**® should be added AFTER the “solubility challenged” spray material is in the tank.